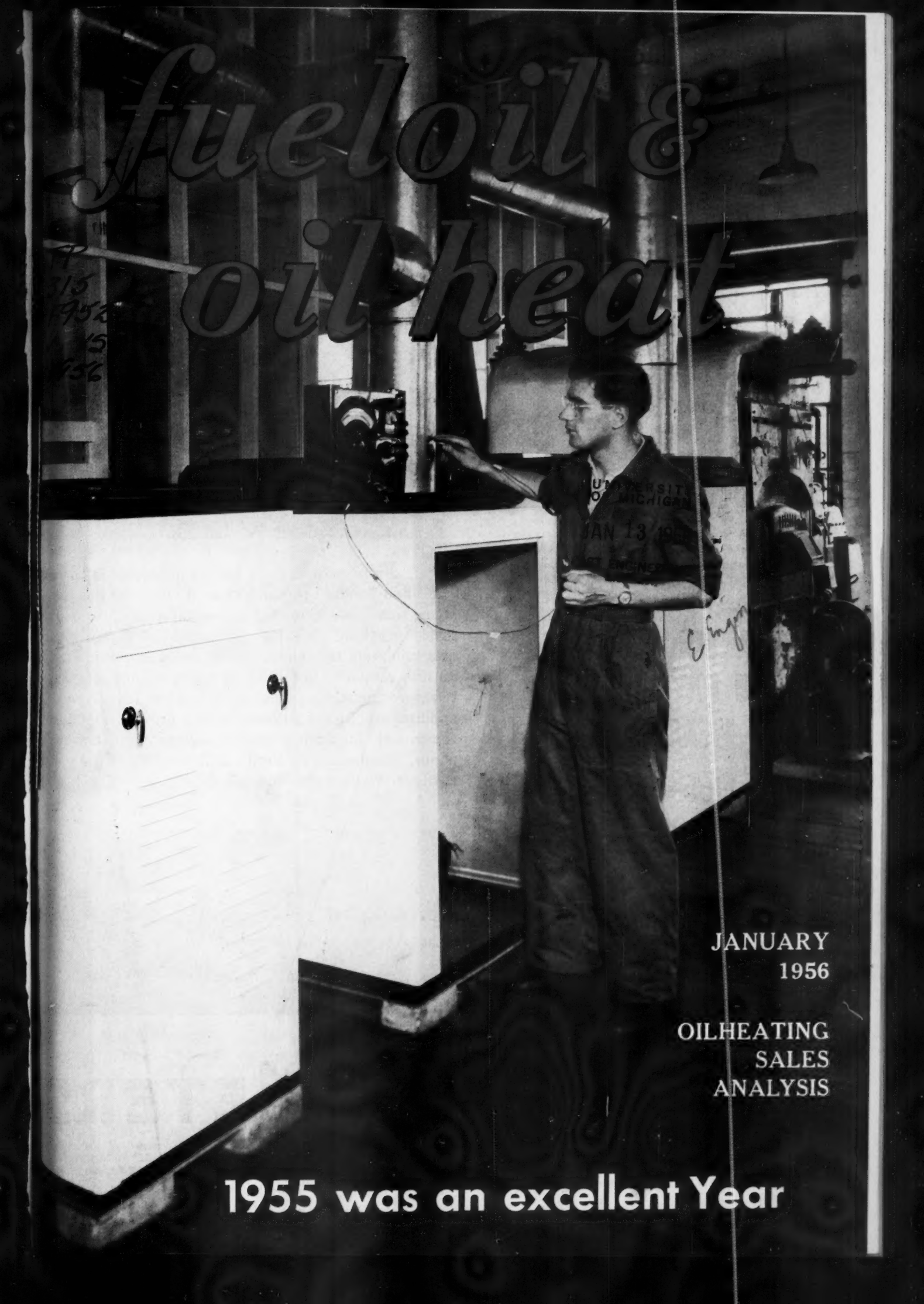
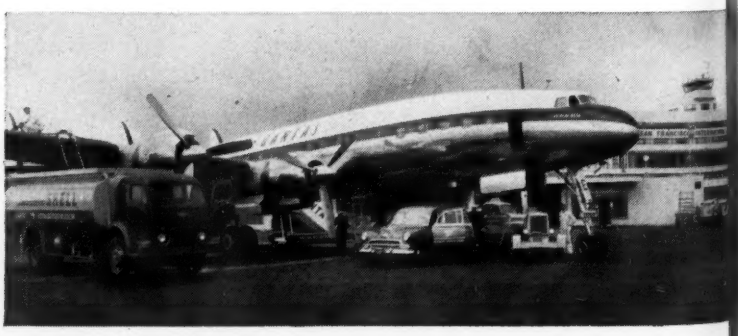

fuel oil &
oil heat
JANUARY
1956
OILHEATING
SALES
ANALYSIS
1955 was an excellent Year

One of the new Brodie Meter equipped refuelers recently added to Shell Oil Company's fleet servicing Qantas Airlines at San Francisco International Airport.

BALANCING FUEL LOADS WITH PAY LOADS FOR MEASURED SAFETY

with high sustained accuracy of BRODIE *BiRotor* METERS

From coast to coast and on important island bas you'll find Brodie BiRotor Meters performing the most e acting services—accurately measuring fuel loads to provi ample margin of flight safety. While holding refueling ti at a minimum to maintain flight schedules, weight of f must be computed in relation to passenger and cargo weig to assure maximum pay loads. In these and other importa applications, Brodie BiRotor Meters provide a standard comparison for high sustained accuracy and low maint nance. Standardize on Brodie BiRotor Meters for your o erations. Write today for full details.



Qantas, Australia's Overseas Airline, flies the 8,200 mile route from Vancouver, B.C. to Sydney, Australia, with stops at San Francisco, Honolulu, Canton Island, Nandi in the Fijis. The Super Constellation is being serviced by a new Brodie Meter Equipped Shell Oil Company refueler.

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REPRESENTATIVES WITH STOCKS AND SERVICE FACILITIES IN ALL PRINCIPAL CITIES

JANUARY fueloil & oilheat 1956

VOLUME 15 NUMBER 1

C O N T E N T S

SUBJECT	PAGE	AUTHOR
Oilheating's third best Year	73	
Dealers are selling Better	81	
What we're learning from OHMR	84	FRED BURROUGHS
Oilheating Roundup	88	
Survey of Burner-fueloils	92	
Selling a different Fueloil	94	
How to adjust an Oilburner	96	JOHN W. SCHULZ
Some Builders feature Heating	100	
Electricity challenges Fueloil	102	

COMMERCIAL - INDUSTRIAL SECTION

To sell commercial Jobs, know steam Heat	108	JEAN L. DUPUIS
1955 Power Show	118	

NEWS

Warm Air Association meets in New York	25
OHI's Board to meet in Cleveland	39
New York bans oil Heaters	39
'56 Construction to break Record	40
Tank Standards suggested by OHI	40
Paragon plans Rhode Island Refinery	44
Massachusetts amends water heater Law	44
Canada to underwrite gas Pipeline	46

DEPARTMENTS

6	Names in the News
12	Oilheating Trends
18	Fueloil Prices, Degree-Days
20	Government on Fuels
62	Industry Groups
128	Readers' Problems
138	New Products
164	Manufacturers' Activities
178	Calendar of Events

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MEMBER OHI

MEMBER BPA

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Among other things . . .

This is the annual issue in which we bring down to date many of the industry's sales statistics and an analysis of pricing levels for oilheating equipment. It is the only source within the industry for quite a lot of the data. We put it together as a result of representative dealer sampling each year in December. Because of its early December timing, some estimating is done to complete the year but for all economic purposes the statistics are quite effective.

A novelty tried for the first time this year was a round-table discussion with a small group of industry experts to review a number of the significant happenings of 1955 and estimate their probable real significance to the oilheating industry. Then Fred Burroughs of Oilheating Market Reports is giving us a statistical summary of the first 29 programs to be completed—some very useful figuring.

World's Largest Manufacturer
of the
Greatest Variety of Designs

Sparktrodes by DIELECTRIC

Pioneer with Standard Types

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Leading Supplier
to Oil Burner Manufacturers

Sparktrodes by DIELECTRIC

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to Service Organizations

All Jobbers in Dielectric's nation-wide system of distribution carry carefully-selected, well-balanced inventories of Sparktrodes in steady demand — all the designs most likely to be called for in the areas they serve. In almost all cases, they can, therefore, fill your orders directly from stock. Backing this service are Dielectric's unmatched facilities for making SAME-DAY SHIPMENT to them on 175 special designs, as well as Five Standard Types pioneered by Dielectric, for application to 144 oil burner brands. When you order Sparktrodes from a Dielectric Jobber, you are assured of finest quality equipment and fastest service.

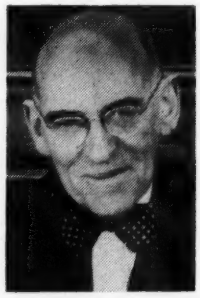
7-56-1

MEMBER OHI

DIELECTRIC
PRODUCTS COMPANY, INC.
Jersey City New Jersey

Names in the News

S. Arthur Loeb, chairman of the executive committee, Webster Electric Co., Racine Wis., died at his home in San Diego, Calif., recently. He was 69 years old. He joined the company in 1909 as treasurer when the company was located in Tiffin, O., and devoted his time to finance and sales. He was responsible for selecting Racine as the permanent home of the company. He became president in 1926 and was elected chairman of the board in 1952 and chairman of the executive board in 1954.



William E. Judd has been appointed general manager of the U. S. Machine Division, Stewart-Warner Corp., Lebanon, Ind. The appointment becomes effective on January 9 when *Carl J. Winkler, Sr.,* retires. Winkler has been head of U. S. Machine since it was founded and has been general manager since the company was purchased by Stewart-Warner in 1953. Judd has been with the parent company for 13 years. He was sales manager of the South Wind Division and became assistant to the president in 1954.

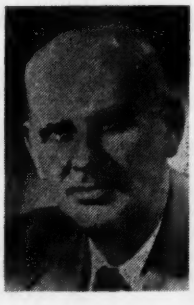
H. Kezar Libby has been elected president, Randall & McAllister, Portland, Me. He has been with heating firm since 1931 and has been vice-president and general manager. *John F. Randall* was elected treasurer and *Donald O. Ayers* was named to the board of directors. Libby is a director of the New England Fuel Dealers Association and the Maine Oil Heating Equipment Association.

Donald E. Hawk has been named sales manager, Steel Boiler Department, Burnham Corp., Irvington, N. Y. He formerly was associated with Preferred Utilities Manufacturing Co. and the Fitzgibbons Boiler Co., Inc. He will concentrate on the sale and development of Burnham's steel boiler line.

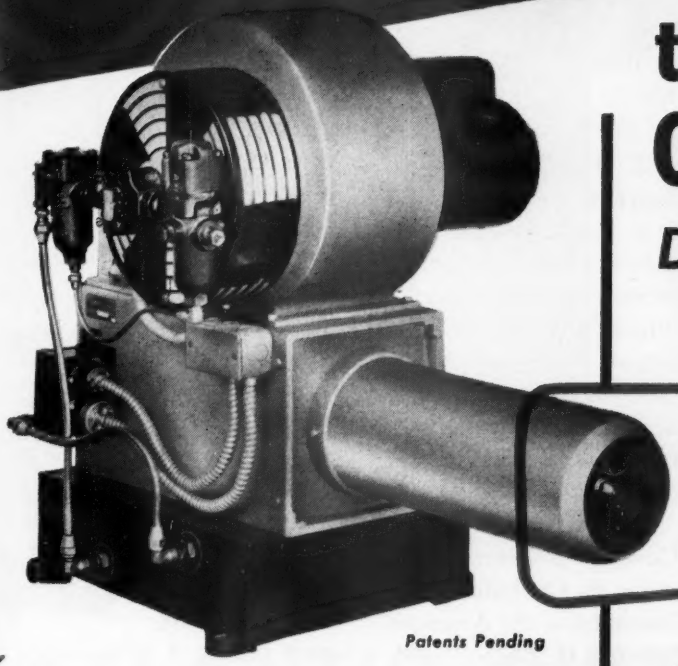
Jack Croushore has been named supervisor, Chicago regional office, General Controls Co., Glendale, Calif. *Ray Wheeler* has taken charge of the Columbus, O., office for the company.

David T. Donovan has resigned as assistant secretary of the American Society of Heating and Air-Conditioning Engineers, New York. He has held the position since 1951 and left to join General Electric's Home Heating and Cooling Department, Bloomfield, N. J.

Douglas McIlvaine has been appointed director of research and development, Acro Manufacturing Co., Columbus, O. He was formerly manager of research and development for Soreng Products. He also has been with the West Penn Power Co., Bell Telephone Labs, Western Electric and Henry Valve Co. *Charles M. Drenning* has been named national service manager, Crise Controls Division, Acro. He has been with Crise for more than seven years and before that was with Stewart Warner.



BIG SAVINGS YOUR CUSTOMERS WILL CERTAINLY WANT



Patents Pending

the NEW #4 OIL BURNER

DRASTICALLY CUTS FUEL COSTS

Converts #4 (and #5) Oil to Burn Efficiently as #2 Oil.

✓ ***APPROVED*** for #4 fuel oil by Underwriters' Laboratories, Inc., and by the Board of Standards and Appeals of the City of New York.

✓ ***BEST BET*** for cutting fuel bills in apartment houses, schools, institutions, commercial and industrial buildings and heating processes by using lower priced fuel oil.

✓ ***AUTOMATIC*** — Electric fuel converter system, complete with safety shut-down and mechanical oil cut-off, is thermostatically controlled — automatically. Complete assembly easily accessible for quick service.

- **Built-in "Thermax" Converters Reduce Heavy Oil to Light Oil**
- **As Quiet as a #2 Oil Burner**
- **Easy to Install and Service**
- **No Complicated Parts**
- **Can Use Existing Piping in Practically All Cases**
- **3 Sizes—3 to 20 G.P.H. Larger Sizes Available Later**

Write for Bulletin and Prices

Inquiries Invited from Boiler and Furnace Manufacturers

SUN-RAY — FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY

Models for Every Heating Need in Sizes from 0.5 to 22 g.p.h.

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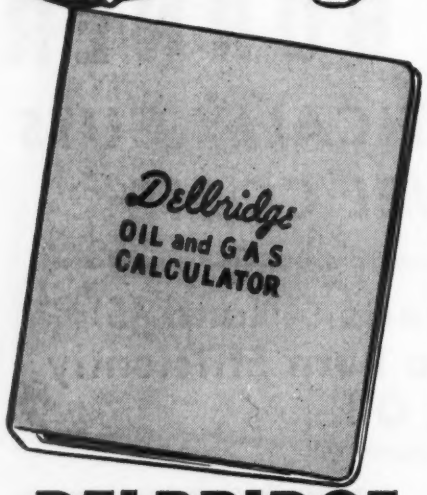
Distributed in Quebec and the Maritime Provinces of Canada by Economic Oil Burner Co., Ltd., 5721 St. Denis St., Montreal, Quebec

Fastest, Easiest Way to Figure Fuel Oil Charges!



DELBRIDGE
Oil & Gas Calculator

Stop figuring fuel oil charges the old-fashioned, long-hand way! No more errors—no more dissatisfied customers!

Figure fuel oil charges fast—easily—accurately—with the DELBRIDGE Oil & Gas Calculator! Total amount of sale is *pre-calculated* for you without laborious long-hand figuring and errors—simple as finding a phone number!

Covers prices from 5¢ to 35¢ per gallon by steps of 1/10¢. Shows gallonage from 1 to 250 gallons by steps of 1 gallon—then to 5,000 gallons in easy steps.

Durable, long-lasting leatherette metal-ring binder. Only 5¼" x 6½"—fits easily in coat pocket. Guaranteed accurate by Lloyd's of London. Only $5.00 each.

Try the DELBRIDGE Oil & Gas Calculator for 10 days . . . *without obligation!* Prove to yourself how it can save time . . . cut down costly errors. Mail coupon for FREE 10-day trial. *Send no money!*

FREE TRIAL COUPON!

DELBRIDGE CALCULATING SYSTEMS, INC.
2502 Sutton Ave., St. Louis 17, Missouri

Send the DELBRIDGE Oil & Gas Calculator . . . *without obligation!* We will approve your invoice for $5.00 (plus postage) within 10 days if we decide to keep the Calculator.

Name.....Title.....

Company.....

Address.....

City.....Zone...State.....

A. L. Caney has been made general sales manager, Tuthill Pump Co., Chicago. Before joining Tuthill he had been district representative in the midwest for Diamond Chain Co., and earlier had been assistant manager of engineering sales for the Crane Co.

Norman J. E. O'Brien has been appointed manager of the Detroit sales region, Delco Appliance Division, General Motors Corp., Rochester, N. Y. His territory includes Michigan, Indiana, Kentucky and parts of Ohio and West Virginia. He joined the company as a salesman in 1941. *K. C. Lewis,* former Detroit region manager, is now sales engineer in charge of special accounts.

John F. Campbell has been named field director for the Oil Industry Information Committee of the American Petroleum Institute. He had been midwest regional director for the public relations program and will be succeeded in the Chicago office by *J. W. Lenon.* Taking Lenon's place as senior district representative in the Kentucky-Ohio-Tennessee district office in Cincinnati is *John Richardson.*

William A. Finn has been appointed general manager, Holyoke Division, Worthington Corp., Harrison, N. J. He joined Worthington in 1926 and was New England district sales manager from 1930 to 1941. After service with the Navy during World War II he became manager of Worthington's export department. The Holyoke plant manufactures airconditioning and refrigeration equipment.

Ernest A. Randall, president and treasurer, Randall & McAllister, Portland, Me., died recently at his residence in Falmouth Foreside, Me. He was 79 years of age and had been known as one of the oldest oilheating executives in the area. He also was prominent as one of the state's foremost sportsmen.

Sterling Mitchell has been made advertising manager, Eureka Williams Co., Bloomington, Ill. He has served with several advertising agencies.

Robert L. Bluhm has been named district sales manager, Iron Fireman Manufacturing Co., Cleveland. He will supervise the sales program in West Virginia, southeastern Ohio and eastern Kentucky. *Philbert J. Schumach* will head the Philadelphia district office and *Edward J. Dwyer* will cover the upstate New York area and Vermont as an industrial sales representative.

Edgar Green has been appointed vice president, Pullman Vacuum Cleaner Corp., Boston, Mass. He joined the company in 1953 as a salesman and became assistant to the president shortly afterwards. Another recent appointment is that of *John Daniel* as sales director.

Edward P. Muller has joined OPW Corp., Cincinnati, O., as district manager of the Rocky Mountain area including Montana, Idaho, Utah, Wyoming, Colorado and New Mexico. He was formerly vice-president and general sales manager, Eaton Metal Products Co.

John E. Lancaster has been named manager of engineering, Airconditioning and Refrigeration Division, Worthington Corp., Harrison, N. J. Taking on his former position as chief engineer, heavy-machinery section, is *F. A. MacConnell.* Lancaster joined Worthington in 1940 and served in various capacities in the research and development department.

Herbert S. Haight has been named manager of the San Francisco marketing division, Shell Oil Co. He replaces *W. E. McDonald,* division manager since 1948, who will be on special assignment for Shell on the West Coast until his retirement early next year.

quality product

dependable supply

ATLANTIC DISTRIBUTORS' "ONE-TWO" SALES PUNCH!

A high-quality product in continuous, dependable supply. Distributors know that this is necessary for success in the heating oil business.

And this is the advantage enjoyed by every Atlantic distributor. He sells the famous *triple-refined* heating oil with a *new additive* that helps prevent sediment from forming in tank bottoms, lines, filters and burner nozzles.

Atlantic's new "inhibiting" process makes for greater storage stability over long periods, and insures Atlantic customers steadier, cleaner-burning, more automatic heat with fewer service calls.

The new and improved Atlantic Heating Oils are available at conveniently located pipe line or water terminals. This means that Atlantic distributors can always depend on continuous, dependable supply.

Doesn't this add up to something worth looking into?

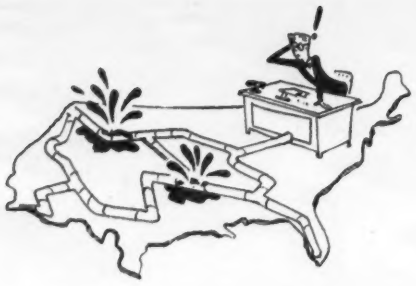
TERMINALS AT:

Providence, R. I.
New Haven, Conn.
Albany, N. Y.
Binghamton, N. Y.
Buffalo, N. Y.
Elmira, N. Y.
Rochester, N. Y.
Syracuse, N. Y.
Wayland, N. Y.
Newark, N. J.
Trenton, N. J.
Gloucester, N. J.
Bridgeton, N. J.
Boston, Mass.

Akron, Ohio
Allentown, Pa.
Altoona, Pa.
Exton, Pa.
Greensburg, Pa.
Johnstown, Pa.
Lebanon, Pa.
Mechanicsburg, Pa.
Northumberland, Pa.
Philadelphia, Pa.
Pittsburgh, Pa.
Reading, Pa.
Williamsport, Pa.
Wilmington, Del.

Baltimore, Md.
Salisbury, Md.
Richmond, Va.
Charlotte, N. C.
Greensboro, N. C.
Wilmington, N. C.
Spartanburg, S. C.
Albany, Ga.
Atlanta, Ga.
Griffin, Ga.
Macon, Ga.
Savannah, Ga.
Jacksonville, Fla.

ATLANTIC
HEATING OILS



Editorial Leaks

THE STATISTICAL MATERIAL in this issue shows that the oilheating industry has just ended a splendid year . . . in fact the installations were within 6% of our all-time high point in 1947, the postwar catch-up year.

We could feel pretty good about it except that gas installations beat us by a third and a lot of their new business has popped up in some of our sweetest markets. Much of the credit for their growth goes to the strong promotional work of AGA and GAMA. With higher average fuel costs in most of the markets they have had to sell hard.

Dealers look for 1956 to be better for oilheating largely because our people are stepping out with more selling, more advertising. The first 20 cooperative programs working with OHMR raised nearly a half million dollars in 1955 and spent two-thirds of it. Those same campaigns will be larger in the new year and there will probably be another 20 going before many months.

The industry has reason to be optimistic. And as we went through the many year-end reports from dealers all around the country, submitting their own statistics for the industry's benefit, we were certainly optimistic over any industry that has such a public spirited group.

❖

THE BATTLE LINES are drawn in earnest over the Harris Bill which will be coming up early in the new session of Congress. If passed the bill would remove from the Federal Power Commission control over gas prices at the wells.

With the oil industry solidly backing the bill, local gas utilities and municipal authorities are fighting it. We are strongly in favor of its passage.

Our reasons are not the same as some of our fueloil and oilheating friends. We're not favoring the bill because we think its success will cause gas prices to rise sharply and reduce the competitive pressure on us. There's a good chance that higher gas prices will stimulate its production, and with enough profit for strong sales expense the higher prices may mean more gas sales, not less.

Our reason, then, for wanting the bill passed has nothing to do with competitive pressures or prices. We believe that it's dead wrong for any Government group to become quite that intimate with any industry. At the field level, gas is a little too close to oil for us to be complacent. We can't forget about the Arab who let the camel put his head in the tent.

Those who like the present arrangement say that the Government controls the pipeline rates so why not the contents. The ICC controls rail freight rates, too, but doesn't tamper with the bicycles or threshing machines that the trains haul.

There's one exception—agricultural product prices, and where could you look for a sorrier picture.

Let's do what we can to help the bill!

❖

BY WAY of being not quite so cordial to the gas crowd here are some interesting recent quotations by prominent men:

Speaking before the annual convention of the American Gas Association in Los Angeles Jesse E. Hobson, Director, Stanford Research Institute, helped us out with this one, "The supply of natural gas cannot meet the growing demand for much longer. To maintain their healthy, growing industry, therefore, the gas companies must develop alternate sources of high Btu gas at a cost which will permit competitive pricing to the consumer. Various processes can be contemplated for producing high Btu gas. It could come from coal, lignite, residual fueloil, crude oil or shale oil."

Another speaker at the same convention was E. J. McConnell, Stone & Webster Service Corp., New York, who talked this way, "Natural gas is in great demand in those areas where it is competitive in price. However, in the areas distant from gas fields, such as New England and New York, substantial increases in the price of natural gas since its introduction have dampened these hopes severely and now observers believe that natural gas may soon be priced out of the market."

New Jersey's Governor Robert B. Meyner speaking at Spring Lake, N. J., is quoted by the *New York Herald Tribune* as saying, "The gas industry must fully tell the story of natural gas and correct misconceptions in the public mind that natural gas would bring lower rates."

❖

IN VISITING WITH a successful fueloil distributor in Oregon one day last month he expressed dissatisfaction with losses he has had in his oilheating equipment department. In the past eight years since he first started selling oilburners and units he has installed just over a thousand jobs.

But, he points out, he has lost just about $30 an installation on the average. His service department is breaking even. This man has sold above-average quality jobs, big name brands.

The important thing, though, is that he started in fueloil only 10 years ago and has built the largest gallonage in his market. He was up against mighty solid competition but they were not selling burners.

Today this market is plagued with all sorts of selling gimmicks like green stamps, two percent for cash and other lazy selling devices, again offered by companies that ignore oilheating.

Our friend doesn't follow these policies but was worried because his turnover of accounts was running 17%, including credit stops and move-aways but mostly due to competitors' "bargain offers."

That was the cue we needed . . . to ask, "Among these families where you sold the equipment and serviced it, how many oil accounts have you lost to the save-you-money competitors?" He thought a minute—"I only know of one."

Fine service and close attention will nearly always win out over bargain offers. And while we'll never vote for anyone deliberately losing money on equipment, burner sales do make the most faithful customers for the oil man.

Cost-Cutting Aids for Fuel Oil Dealers

VENTALARM

TRADE MARK REG. U. S. PAT. OFF.

the Original and Dependable

WHISTLING TANK FILL SIGNAL

- Saves up to 30% on delivery costs.
- Operates on the movement of air alone.
- Lasts the lifetime of the tank.
- Stem easily cut to provide any predetermined safety zone within the tank.
- A full variety of models and sizes for new or old tank installations — residential, commercial or industrial.

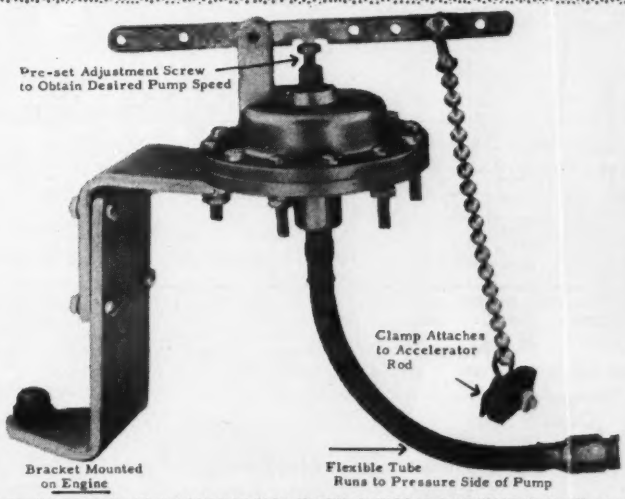
Over 4,000,000 VENTALARM Signals now installed.

Model LA
for new tanks

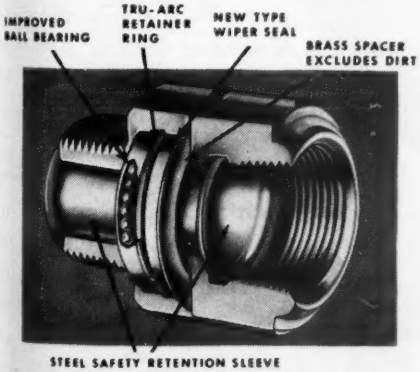
Model LC
for old tanks

Scully THROTLATOR®

For automatic control of fuel oil pumping speed. Ends hand throttle adjustment and needless racing of truck motor and pump. Automatically adjusts engine speed to proper RPM for maximum pump efficiency when power take-off is engaged. Only 4" square, the Scully THROTLATOR is easily installed under engine hood near carburetor.

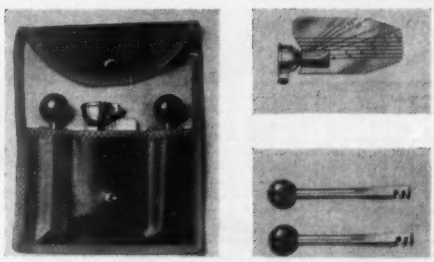


Scully SWIVEL CONNECTOR



For use between hose and nozzle to eliminate hose twist. Guarantees easy positioning of nozzle for delivery. Ball bearing action assures smooth turning even under full hose pressure. Exclusive safety retention sleeve holds swivel parts firmly in place.

Scully 3-D ELECTRODE KIT



For fast, accurate 3-dimensional adjustment of burner electrodes. Gauge cup slips over burner nozzle. Gives you choice of setting by degree angles or by inch measurement method. Special electrode benders included. Complete Kit, as shown.

Scully Safety Vent Cap

Guarantees full venting. Special floating screen prevents insect clogging. Clutch-head screw locks cap on pipe, making it theft-proof. Size: 1¼". Handy-Pack of 6.

Scully Spout

1-piece hardened alloy spout at low price. Features special design for velocity flow.

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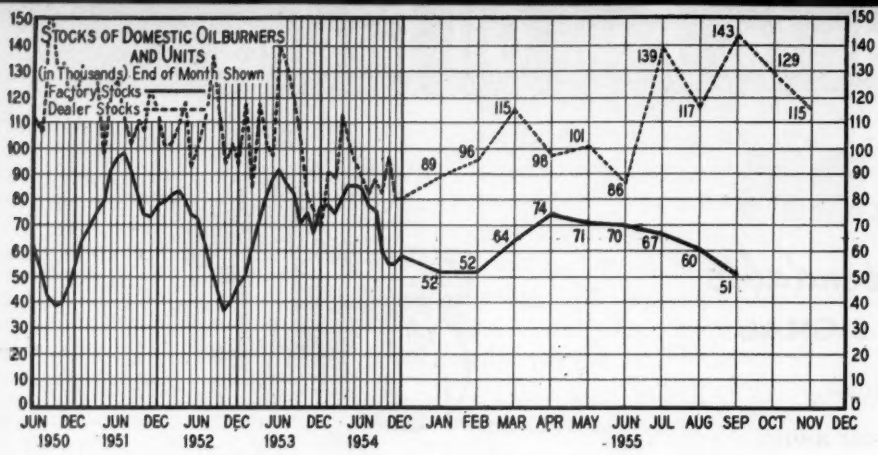
Scully Products are manufactured under U.S. and Foreign Patents and Patents Pending.

PURCHASE FROM YOUR FAVORITE SUPPLIER

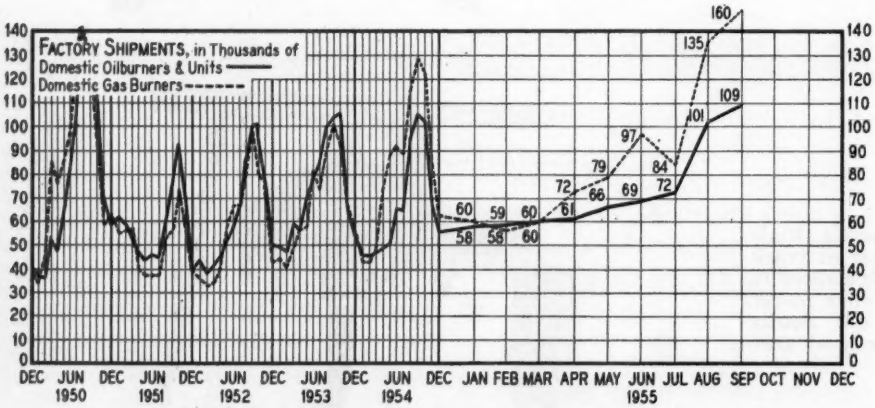

STOCKS OF DOMESTIC OILBURNERS AND UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN 1950 DEC JUN 1951 DEC JUN 1952 DEC JUN 1953 DEC JUN 1954 DEC JAN FEB MAR APR MAY JUN 1955 JUL AUG SEP OCT NOV DEC

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 145 reporting to the Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	SEPTEMBER			NINE MONTHS		
	1955	*1954*	*Percent Change*	*1955*	*1954*	*Percent Change*
Separate Burner	71,718	65,578	+ 9.4	429,567	373,886	+ 14.9
Boiler Units	11,969	9,729	+ 23.0	64,031	48,842	+ 31.1
Furnace Units	25,289	28,853	— 12.3	159,858	141,692	+ 12.8
All Domestic	108,976	104,160	+ 4.6	653,456	564,420	+ 15.8
Commercial	4,677	4,143	+ 12.9	28,954	28,038	+ 3.3
Total	113,653	108,303	+ 4.9	682,410	592,458	+ 15.2


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gas Burners
DEC JUN 1950 DEC JUN 1951 DEC JUN 1952 DEC JUN 1953 DEC JUN 1954 DEC JAN FEB MAR APR MAY JUN 1955 JUL AUG SEP OCT NOV DEC

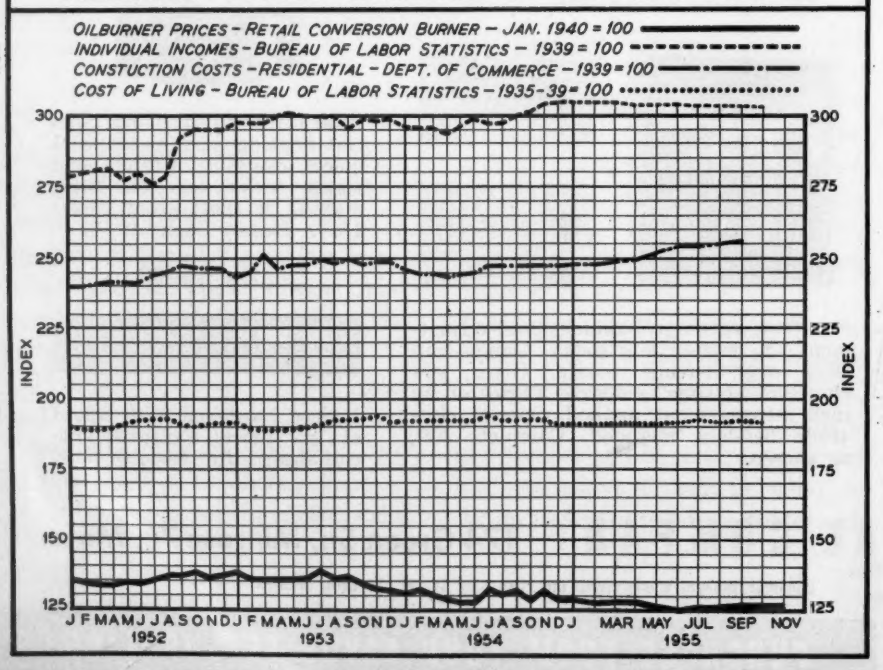
November Minimum Retail Prices: Key Dealers

	SEPARATE BURNERS	BOILER-BURNERS	FURNACE-BURNERS
November Aver.	$315	$721	$594
October Aver.	310	711	606

Price Index: Separate Burners: January 1940 is 100%

WHOLESALE				RETAIL			
November	141.9	Six months ago	139.7	November	126.4	Six months ago	125.9
October	140.5	Year ago	133.7	October	125.9	Year ago	130.7

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER — JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS — 1939 = 100
CONSTUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE — 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS — 1935-39 = 100
INDEX
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J MAR MAY JUL SEP NOV
1952 1953 1954 1955

Oilheating Trends

ESTIMATED INSTALLATIONS of domestic oilburners and units during November were 87,973, nearly 6% below the 93,230 installed in the same month of last year. The year as a whole has been quite erratic since you will recall that October installations were quite far above those of 1954.

Total installations the first eleven months of 1955 were approximately 786,895. This compares with 709,586 in the same period of the previous year showing a rise of 11%.

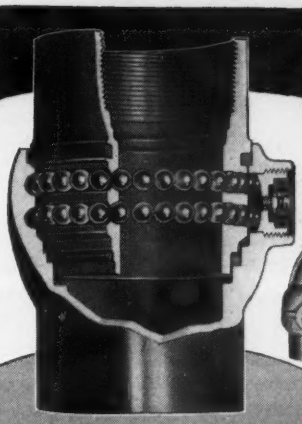
The November installations were divided: New Homes, 27,960; Replacements of old oilburners, 19,970; conversions from other fuels, 40,043.

BURNER STOCKS: At the end of November stocks of domestic oilburners and units in dealer hands were approximately 115,388 which is very substantially above the same date in 1954 when they were 80,408. It would seem that the November drop in sales was unexpected by the dealers which could account for the high inventory position.

TANK STOCKS: At the end of November oilheating dealers were holding approximately 40,702 consumer oil tanks compared with 39,696 a year earlier. It's interesting to observe that they had only a third as many tanks as they had burners and units indicating that they saw no price advantage in storing tanks. The average price paid by dealers for a 275 gal. tank in November was $31, the same as in the previous month.

By sizes the November 30 tank stocks were divided: 200-275 gallon, 36,835; sizes 550-675 gallon, 2,536; sizes 1,000 and over, 1,331.

STEEL
BRONZE
MONEL
ALUMINUM



No. 80
No. 80F
No. 10
No. 10F
No. 70FX5
No. 70X5
No. 20
No. 20F
No. 70F
No. 30
No. 30F
No. 70
No. 30X4
No. 30FX4
No. 50FX1
No. 30X5
No. 30FX5
No. 60
No. 40
No. 60F
No. 50X5
No. 40F
No. 50FX5
No. 40X5
No. 50F
No. 50
No. 50X1
No. 40FX5

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Join other users of OPW Swing Joints. You can also realize economies in your liquid products handling.

Free Catalog F-8
provides engineering data, sizes, styles, recommendations and prices.

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Special Study this Month

Oilheating Equipment Prices: At the beginning of December there was a New York convention of the National Warm Air Heating and Air Conditioning Association. Nearly every speaker had something to say about the unhappy pricing situation in the heating industry. Many times we have heard the same lament from oilheating companies. Our special study this month was not designed to establish actual prices, but rather to explore the industry's pricing philosophy.

We started by asking the reporting group their impression of oilheating sales in their markets in 1955 from the standpoint of profits on the installations. We learned that on new home installations they feel that 34% of the sales were made at a fair profit. Then they estimate that 54% of these sales carried little or no profit and the remaining 12% were sold at a loss.

Thinking of oilheating installations in old homes the dealers express more favorable profit views. They believe that 58% of old home sales carried a fair profit. Another 30% are graded little or no profit, and again we find them estimating 12% as being sold at a loss.

Of course, when they find equipment being sold at little or no profit, or at a loss, they're not taking into account here the incidental advantages from oil gallonage gained. Neither do they recognize in this impression the very small heating shop that operates virtually without overhead and is primarily operated to earn a good daily wage for the proprietor.

We then asked the dealers to identify the business that is being sold at unprofitable levels, and their composite opinion is that two-fifths of this business is being sold by oil companies to gain fueloil volume, and the other three-fifths is being sold by the small heating dealer whose principal concern is daily income for his family.

If we put this whole thinking together, recognizing the division between new and old home business, we conclude that 47% of all oilheating equipment sales carry a fair profit. Of the remaining 53% that sell in a range from unsatisfactory profit down to actual loss we find that about two-fifths are sold by oil companies and three-fifths by small heating dealers for bread and butter income.

This means that of all installations made by all sources approximately 22% are by oil companies at low prices to build gallonage. This is just about half the business done by oil companies out of the industry's total.

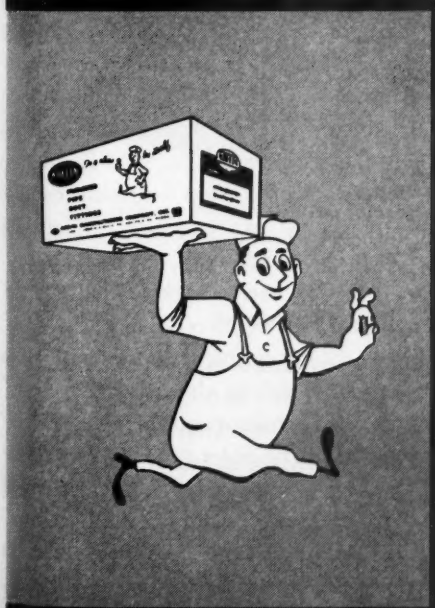
Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
November		11 MONTHS			November		11 MONTHS	
1955	1954	1955	1954		1955	1954	1955	1954
12	21	157	166	Albany, N. Y.	..	..	..	..
113	223	726	836	Baltimore, Md.	329	129	3021	2386
..	..	..	..	Binghamton, N. Y.	5	141	160	178
..	..	..	..	Bloomfield, N. J.	24	4	267	100
..	..	..	..	Boston, Mass.	46	67	703	589
159	102	1424	1152	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	28	41	489	493
5	25	208	228	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	82	108	1841	4125
312	..	..	..	Detroit, Mich.	156	250	2793	2947
31	48	361	457	Elizabeth, N. J.	11	1	66	61
43	54	403	448	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	39	32	420	384
..	..	..	..	Hackensack, N. J.	3	4	57	..
61	130	564	1288	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
14	12	306	331	Irvington, N. J.	1	2	44	21
..	..	..	..	Lynn, Mass.	18	18	193	..
..	46	..	710	Meriden, Conn.	..	..	..	..
..	895	..	6215	Milwaukee, Wisc.	..	429	..	3621
27	32	207	190	Minneapolis, Minn.	43	106	763	1100
11	14	174	210	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	6	1	36	45
23	30	315	320	Mt. Vernon, N. Y.	..	..	..	..
87	92	1314	1413	Newark, N. J.	..	..	..	..
68	34	993	467	New Bedford, Mass.	..	..	..	..
..	42	..	462	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
33	35	352	295	New Rochelle, N. Y.	39	28	425	369
..	..	..	..	New York City (Total)	..	..	..	..
..	..	..	..	Brooklyn-Queens	823	..	..	..
..	..	..	..	Manhattan, Bronx, Rchd	..	..	..	..
37	90	596	583	Norfolk, Va.	28	22	605	426
..	..	..	..	Oakland, Calif.	..	..	..	..
..	23	..	160	Omaha, Neb.	..	..	..	..
8	8	134	164	Orange, N. J.	1	6	12	13
11	11	120	152	Passaic, N. J.	..	..	..	..
33	28	460	367	Paterson, N. J.	8	14	181	..
551	619	3936	4232	Philadelphia, Pa.**	..	..	..	..
..	..	..	..	Plainfield, N. J.	4	8	113	131
91	95	632	665	Portland, Me.	27	17	228	143
243	322	3767	4128	Portland, Oreg.	57	96	1097	1550
24	18	187	211	Poughkeepsie, N. Y.	..	..	..	..
152	126	..	..	Providence, R. I.	..	13	..	..
..	..	..	..	Reading, Pa.	4	3	43	46
75	21	466	348	Richmond, Va.	21	24	304	410
106	..	1140	..	Roanoke, Va.	..	..	..	..
106	210	1371	1880	Rochester, N. Y.	..	..	..	..
11	11	145	131	Rockville Center, N. Y.	6	6	61	71
60	81	464	435	Salem, Mass.	11	6	96	61
..	269	..	1970	St. Louis, Mo.	19	33	365	501
15	9	118	93	St. Paul, Minn.	104	109	984	1087
11	3	101	193	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	88	156	1794	2337
..	262	..	2025	Spokane, Wash.	..	..	..	..
132	204	1529	1505	Springfield, Mass.	63	81	1401	1161
35	25	286	282	Stamford, Conn.	..	..	..	..
..	..	..	..	Syracuse, N. Y.	..	..	..	..
..	..	..	..	Trenton, N. J.	1	..	50	..
..	..	..	..	Utica, N. Y.	4	12	257	172
122	98	567	646	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	18	36	249	315
..	23	316	..	White Plains, N. Y.	..	..	..	..
56	56	468	509	Wilmington, Del.	6	7	80	49
167	163	1303	1384	Worcester, Mass.	..	..	..	..
111	50	563	671	Yonkers, N. Y.	..	..	..	..
2738	3100	24717	26380	Totals	1299	1990	18717	21200
—11.7	..	—6.3	..	*Percent Change*	—34.7	..	—11.7	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

**Courtesy of "Philadelphia Inquirer."

ADELTA



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MANUFACTURERS OF GAS & OIL FURNACES AIR CONDITIONERS

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If you have other questions on this point, write the editor, we have a little more detail.

The next question was logically on the point of how much loss is ever justified by an oil company to gain a new account. It was interesting to see that 77% of the reporting fueloil distributors said that they would never intentionally take a loss on equipment. The other 23% of these oil companies would be willing to do it.

The amount of loss on a single installation that they consider justified to get an oil contract ranged from a low point of $10 up to a high of $50. The average of all these impressions on justifiable loss was $25.

It is quite interesting that this figure is just about the amount the typical fueloil company will pay per account when he is buying a segment of some other oil man's distribution. In other words it has been pretty well established through years of experience that a typical residential fueloil account has a capital good will value of about $25.

Among the companies reporting in this study only about 6% of their own sales in 1955 were sold without profit, although as we saw before, they estimate that half of the industry in their markets sells that way. It always has been fairly obvious that the oilheating dealers and distributors sufficiently interested in the industry to help in these monthly studies would be above average in ability.

Prices are too Low

When we ask the group where they think the oilheating prices should be to make the business particularly attractive, their overall opinion is that average prices today are too low by 16%. This is not surprising because we show on a monthly index the low level on these prices compared to other construction costs.

The current co-operative advertising campaigns sponsored by Oilheating Market Reports in some three dozen key areas will help to raise prices of oilheating equipment in the opinion of 63% of the reporting companies.

One reason the industry does not have more good salesmen is naturally the prices are too low to attract them. Almost four-fifths of the reporting dealers vote that with higher prices we could attract better salesmen. The next logical question was whether they believe that if we get better men we could sell at higher prices. On this one 86% of them voted yes. Thus, the whole question seems one of marketing courage. If better salesmen can get better prices and can be attracted to the industry because of better prices—there's nothing else to do but start in that direction.

The final question in the series asked whether the dealers believed that they could generally raise equipment prices by 10%, use half of this increase to provide extra income for good salesmen and as a result sell more jobs than they do now. On this question 73% of the companies voted yes.

This whole topic seems to be opening up in fine shape. The constructive thinking displayed in the answers to these last three questions certainly points to an opportunity for more adequate prices in 1956.

Dealer comments on questions of the month were "In the commercial field too many dealers figure the cheapest kind of installation without asking enough to insure good design and workmanship." . . . "We need an educational program in fueloil and burner marketing to educate the cheaper dealer to the damage he is doing to the industry and to the homeowner who is the final victim." . . . "If heating dealers would stop emphasizing gas they could expect more cooperation from oil companies."

"If we can't mark up equipment sales 40% we don't make the sale." . . . "Our problem is the companies trying to sell in the builder market." . . . "One-man operators without service and mail order prices are a big influence in our market." . . . "Sell up in '56; let's hope values will hold." . . . "Gas installations are very low in price, have budget for both equipment and fuel, plus good salesmen."

"Cut price operators keep values down on new construction; conversion market almost saturated, replacement market coming fast." . . . "We would agree with you if we could find good men." . . .

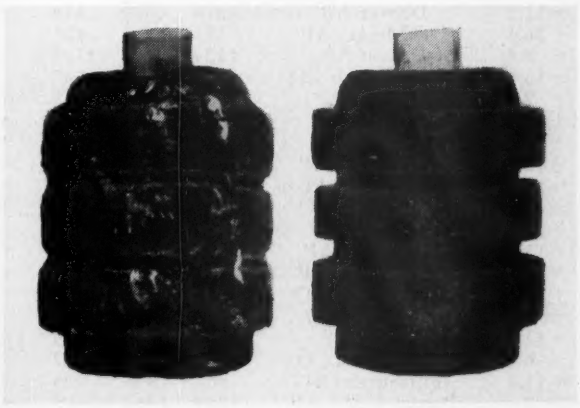
Let's crack down on these common customer complaints!...

SLUDGE . . . GEL-CLOGGED LINES . . . GUMMED-UP SCREENS . . .
COATED ELECTRODES AND STACK CONTROLS

Here are two additives that can help solve a wide range of service problems.

To prevent sludge

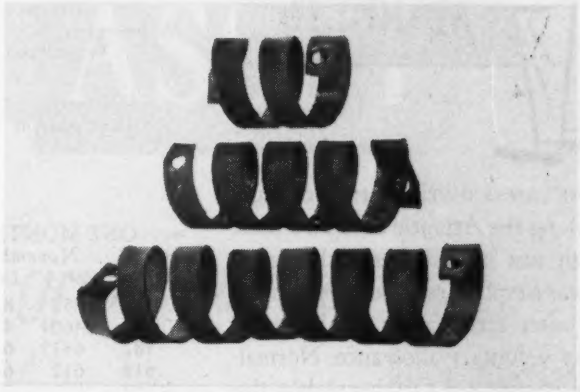
Du Pont Fuel Oil Additive No. 2 (FOA-2) prevents screen and filter clogging by retarding the formation of insoluble residues and by reducing the particle size of residues that are formed. Furthermore, this additive gradually disperses sludge that has gathered—tending to help rid dirty systems of deposits that already exist. Its stabilizing effect keeps fuel oil stocks gum-free for exceptionally long storage periods.



Just look at the difference! Filter on left was used for 90 days with untreated fuel. Filter on right was used for 90 days with same fuel to which had been added FOA-2.

To avoid gel-clogging

Du Pont Metal Deactivator (DMD) can generally be used effectively to prevent *copper* fuel lines and filter screens from playing mischief with some of the chemical constituents of heating oils. If unchecked, the copper is likely to cause the formation of a gelatinous substance. And complete stoppage of fuel flow is likely to result.



These stack controls had to be removed from domestic heating units because the deposits caused improper operation. The ashless properties of FOA-2 can help you prevent such needless service calls.

To keep electrodes and stack controls clean

FOA-2 is *non-metallic . . . ashless!* This means that it leaves no insulating deposit on the electrodes of the burner system . . . or deposits which interfere with the operation of controlling mechanisms.

For best results . . .

Du Pont FOA-2 and DMD should be added to freshly prepared stocks *at the refinery.* Because they are effective in low concentrations, they can be incorporated economically by your supplier.

For yourself, they offer outstanding benefits for advertising and other promotion. And, at the same time, can increase your profit margin by reducing service calls.

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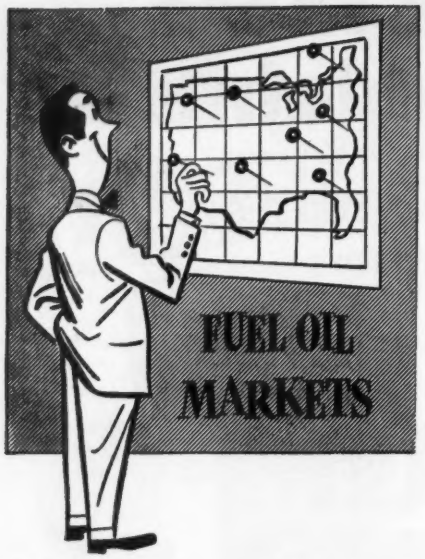


THE ANTICIPATED price changes along the Atlantic Seaboard came through just after last month's issue. This was simply a restoration to posted prices after terminating the half cent summer voluntary allowance. Normally this is removed October 1 but this year the stocks were too high to make it realistic until late November.

The only other change in the price table for No. 2 oil was an eighth cent rise in tank car price at Minneapolis.

We don't normally discuss residual prices in this column but they encountered their third rise of the year in the East when Atlantic moved at Philadelphia on Dec. 14. None of the increases have been large in themselves, but in the aggregate they reflect as nothing else could the fallacy of the limited import policy now in effect. U. S. refineries are moving away from residuals so definitely in the interest of more light products that the growth of industrial oilburning can only be sustained through fuel imports on a free basis.

Primary stocks of distillates East of the Rockies on Dec. 9 were 10% above a year ago. Secondary stocks on October 31, the latest available figures, were up 9%, both of these being relatively normal situations in view of the expected winter requirement increase.

The heating season through November started out fine for fuel demands. November itself was colder than normal in every one of the reporting 38 cities and the season to date was colder than normal in 29 of the 38. Important exceptions were New York and Philadelphia.

No. 2 Heating Oil (Including No. 3 & PS200)

Price per gallon as of December 15, 1955

	Tank Car	Tank Wagon		Tank Car	Tank Wagon
Portland, Me.	10.5	14.2	Richmond	10.7	13.9
Boston	10.4	14.1	Charleston, S. C.	10.4	13.6
Providence	10.4	14.1	Chicago	10.7*	14.1
Springfield, Mass.	10.65	14.2	Detroit	11.65*	14.9
Hartford	10.65	14.2	Cleveland	11.3*	14.3
New Haven	10.3	13.8	Minneapolis	10.125	13.8
Syracuse	11.3	14.5	St. Louis	10.25*	13.9
Albany	10.6	13.9	Indianapolis	10.75*	14.6
New York	10.3	13.8	Milwaukee	12.0*	15.0
Newark	10.3	13.3	Des Moines	10.0	13.8
Philadelphia	10.3	13.2	San Francisco	10.45	13.0
Harrisburg	..	14.3	Portland, Ore.	11.05	13.6
Baltimore	10.3	13.85	Seattle	11.05	13.7
Wilmington, N. C.	10.4	13.7	Spokane	13.45	16.1
Washington	..	14.35	Los Angeles	9.95	12.5

*Delivered.
Tank wagon prices shown are for maximum one-time delivery discounts.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	November		Percent		Sept. through Nov.			Percent
Normal	1954	1955	Change*		Normal	1954	1955	Change*
780	752	821	+ 5.3	Albany AP	1362	1264	1382	+ 1.5
393	460†	433	+10.2	Atlanta AP	511	605†	571	+11.7
582	641†	648	+11.3	Baltimore AP	910	925†	906	— 0.4
618	612	685	+10.8	Boston AP	1010	967	1077	+ 6.6
753	693	788	+ 4.6	Buffalo AP	1308	1182	1262	— 3.5
765	666	864	+12.9	Chicago AP	1205	1026	1209	+ 0.3
567	611	702	+23.8	Cincinnati CO	831	934	976	+17.4
699	663	785	+12.3	Cleveland AP	1114	1036	1157	+ 3.8
299	263	347	+16.1	Dallas AP	352	341	401	+13.9
771	616	857	+11.2	Denver AP	1316	1082	1319	+ 0.2
798	669	1008	+26.3	Des Moines AP	1252	1118	1425	—13.8
747	705	811	+ 8.6	Detroit AP	1224	1126	1195	— 2.4
756	681	847	+12.0	Grand Rapids CO	1255	1140	1247	— 0.6
699	706	754	+ 7.9	Hartford AP	1184	1136	1237	+ 4.5
999	772	1355	+35.6	Helena AP	1936	1744	2217	+14.5
181	151	196	+ 8.3	Houston AP	188	187	217	+15.4
705	682†	820	+16.3	Indianapolis AP	1090	1055†	1171	+ 7.4
621	478	740	+19.2	Kansas City AP	905	732	940	+ 3.9
140	81	144	+ 2.9	Los Angeles CO	198	111	208	+ 5.1
579	559	653	+12.8	Louisville AP	862	852	887	+ 2.9
831	736†	939	+13.0	Milwaukee AP	1393	1223†	1416	+ 1.7
960	795	1173	+22.2	Minneapolis AP	1576	1483	1732	+ 9.9
141	180	189	+34.0	New Orleans CO	146	213	206	+41.1
561	569	627	+11.8	New York CO	863	826	839	— 2.8
783	575	1029	+31.4	Omaha AP	1202	970	1399	+16.4
516	554	551	+ 6.8	Philadelphia CO	768	770	723	— 5.9
612	615	693	+13.2	Pittsburgh CO	966	938	998	+ 3.3
825	785	861	+ 4.4	Portland, Me. AP	1539	1464	1608	+ 4.5
534	397	656	+22.8	Portland, Ore. CO	899	779	1044	+16.1
672	658	711	+ 5.8	Providence AP	1160	1060	1153	— 0.6
543	651	622	+14.5	Roanoke, Va. AP	826	933	871	+ 5.4
570	521	650	+14.0	St. Louis CO	810	790	868	+ 7.2
771	621†	875	+13.5	Salt Lake City AP	1240	1113†	1369	+10.4
237	245	273	+15.2	San Francisco CO	475	477	630	+32.6
1005	858	1049	+ 4.4	Sault Ste. Marie AP	1942	1802	1900	— 2.2
540	404	708	+31.1	Seattle CO	1003	882	1245	+24.1
756	717	843	+11.5	Toledo AP	1245	1149	1282	+ 3.0
519	587	578	+11.4	Washington AP	793	804	775	— 2.3

*Compared with normal. †City Office.

Distillate Fueloils

PRIMARY STOCKS*
(Thousands of Barrels)
East of Rockies

	Dec. 9 1955	Dec. 12 1954
East Coast	54,018	47,921
Midwest	39,162	36,418
Gulf Coast	26,991	24,608
Total	120,171	108,947

SECONDARY STOCKS**
(Thousands of Barrels)

	Oct. 31 1955	Oct. 31 1954
East Coast	13,939	12,604
Midwest	6,678	6,184
Gulf Coast	861	698
Mountain	519	496
Pacific	1,247	1,214
Total	23,244	21,196

*American Petroleum Institute. **Bureau of the Census.

Your BEST ASSET

is your own good name

OIL COASTAL COMPANY

Does the most for the independent fuel oil dealer.

COASTAL OIL COMPANY

Executive offices

744 Broad Street, Newark 2, N. J.

Government Influences on Fuels

by
Milburn Petty

WASHINGTON — Fate of the Harris Gas Bill—to exempt independent producers from direct federal control—may be decided surprisingly early in this session of Congress.

The intense grass-roots campaign being waged against this legislation by gas distributing companies forced proponents to seek an early vote in the Senate before support for the bill melted.

Oil industry leaders have branded the charges of the gas distributors—that the bill would increase consumer prices by $800 million a year—as "baseless and ridiculous."

Nevertheless, when millions of consumers find such propaganda statements in their monthly gas bills, they are likely to "write your Senator and Congressman" as local gas companies are urging in their campaign.

Gas Companies Fight Gas Bill

More than 40 gas distributors, headed by John E. Heyke, Brooklyn Union Gas Co., organized the Council of Local Gas Companies to fight the Harris-Fulbright Bill, asserting that it would "abandon price checks on the production segment of the gas industry."

"If price checks are removed from our suppliers by the Fulbright Amendment," these gas companies say, "we will lose the freedom to maintain our competitive position with other fuels.

"We will be forced to pay whatever the gas producers ask, and to reflect such increases in our rates to our customers," the gas group asserted.

Gas Lobby "Blueprint" Issued

The gas distributors council has sent out a 6-point "suggestions for action" to local gas utilities to influence public—and votes—against the Harris Bill.

The gas distributors were urged to get their story into the public press as often and as prominently as possible.

"Paid advertising can be used to tell the story," the gas council said but warned, "this can be over-done, however, as the impression that large sums of the customer's money is being spent should be avoided."

Fears of the gas companies in this regard are well-founded because there are reports of gas consumers planning protests against using "their" money for mailing piece stuffers with monthly bills and other efforts against the Harris-Fulbright Bill.

The CIO has prepared a TV film attacking the gas bill. Likewise, over 200 city mayors are reported opposed to this legislation.

Producers Deny Gas Charges

Replying to gas distributor charges, L. F. McCollum (Conoco), chairman of the Natural Gas and Oil Resources Committee, said that not even in their best year, 1954, did producers receive one quarter of $800 million as their share of the nation's residential gas bill.

"To raise decontrolled prices anywhere near that predicted sum," McCollum said, "would seriously endanger the natural gas industry's competitive position with oil and coal, and could well drive gas entirely out of the fuel market."

Distributor Gets Lion's Share

McCollum said that the more regulation imposed, "the higher the prices. Look at the distributor's share. He has always been regulated, and he gets the biggest cut of the gas dollar. Look at the long pipeline owner. He has been regulated since 1938, and gets the next largest cut. Now, look at the producer, who has never been regulated. He gets the smallest cut, usually about 10%."

Producers Fear FPC's Rate Rule

Other producer representatives have pointed out that, while wellhead prices would be exempted under this legislation, there would be indirect controls on producer prices through control of what the buyers—pipeline companies—could pay for gas.

Having yielded on point after point, producers say that about all the Harris Bill, as passed by the House, does for them now is seek to prevent utility-type regulation of their prices—such as "cost-plus-6%" or other formula that would not adequately recognize the risk involved.

While the Federal Power Commission would pass upon prices in any new or renegotiated gas contracts, and all increases in existing contracts (except spelled-out, periodic increases and escalation for tax raises), the yardstick would be "reasonable market price" and not the utility rule of what is "just and reasonable" which implies a rate-base regulation.

Already, the FPC—under the Supreme Court's decision in the Phillips Case—has indicated that it may use "just-and-reasonable" as the yardstick to test producer prices, if the Harris Bill fails.

In a 3-to-2 decision in the Signal Case, the FPC issued a certificate to the producer but made it contingent upon a rollback in the proposed initial contract price from 12¢ to 10¢, the prevailing field price. Effect is to "freeze" the field price at 10¢.

Fueloil—Interested Bystander

Fueloil distributors are watching this fight with interest, with gas competition expanding in many areas.

"On principle," the National Oil Jobbers Council opposes federal control of producer prices for natural gas.

It would be difficult for the individual fueloil distributors to decide where his "selfish interest" lies.

If he believes the gas distributors, then enactment of the Harris Bill means gas prices would skyrocket and price gas out of the fuel market (which would be suicide, as McCollum has pointed out).

On the other hand, producers say that if the Harris Bill is not enacted, and the risky business of finding and developing oil and gas is subjected to utility-type price controls, future expansion of gas markets would be halted in its tracks, with less reserves developed and more local use by manufacturers locating in the producing states.

Neutral observers say the intrinsic worth of natural gas will increase over the years, with growing use of it as a raw material for chemicals and other products. Regardless of the Harris Bill, the FPC will have to "recognize" this competition with adequate prices—or else the gas will be kept at home.

Warm air Association meets in New York for Convention

THE 42D ANNUAL CONVENTION of the National Warm Air Heating and Air Conditioning Association, Cleveland, took place on November 30 and December 1 in New York City for the first time. At the Hotel Statler there a large gathering of manufacturers, distributors and dealers participated in a full program of morning and afternoon sessions on both days.

Preceding the formal general sessions were meetings of all of the Association committees on November 28 and 29, while G. W. Denges, The Williamson Co., Cincinnati, Ohio and president of the Association, reported on the group's activities during 1955 at the November 30 morning session. President Denges briefly reviewed the research and educational programs sponsored by the group, including Indoor Comfort Conferences, preparation and revision of technical warm air heating manuals, and investigations conducted at the Research Residences at the University of Illinois on heating and cooling applications.

Directors Named

At this same morning sessions four new directors were named to the board: George Herringa, Hart & Cooley; Walter Kremsen, Forest City Foundry; W. J. Olsen, Armstrong Furnace and Dave Sedgwick, Waterman-Waterbury. Other officers are: Frank L. Meyer, Meyer Furnace Co., 1st vice-president; Tom I. Byrd, Lau Blower Co., 2nd vice-president. George Boeddener is managing director and secretary-treasurer.

K. L. Wilson, manager, Heating Controls Div., Minneapolis-Honeywell Regulator Co., was a speaker during the first morning's session, with "Heating and Cooling in 1965" as his topic. He analyzed possible trends that are likely to develop during the next ten years.

The presentation was made with the help of tape recordings and filmed sequences, summarizing opinions expressed by consumers, dealers, manufacturers and representatives of the architects and home building associations about new developments to be expected by 1965.

Members of Honeywell's Market Research Staff conducted interviews, for example, in all parts of the country to sample consumer outlook. They developed that the American people are not in agreement about home comfort today, but:

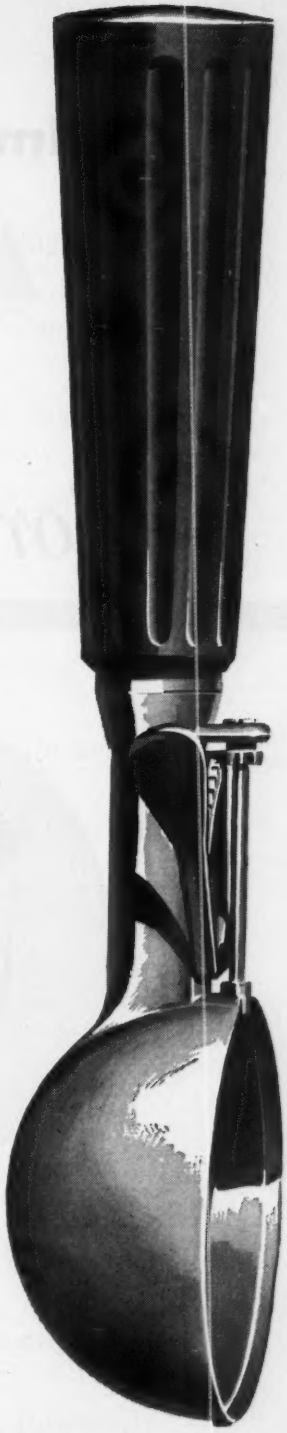
Public expects better Product

"Despite their apathy, the American people are expecting the heating and airconditioning industry to come up with something better than they've had in the past. They're a bit vague about what it is," Wilson said. "But we must keep in mind that the public is continually benefiting from progress in other fields. Such things as color television, power steering, automatic laundries and push-button cooking not only are contributing to greater convenience and enjoyment in homes, but they are conditioning the public to expect even greater convenience and comfort in the future."

Dealers and wholesalers of heating equipment, too, are looking to the manufacturer "for something new" in heating and cooling. Most dealers, as a matter of fact, Wilson pointed out, "are so absorbed in their present-day problems that they have little time or inclination to think about 10 years from now. They do not appear willing or able to take responsibility for the future."

Views of manufacturers also were varied, highlighting the conclusion, Wilson continued, that "there is confusion, even some fear, throughout the industry. True, there is also optimism, but it is the exception, not the rule." Under these circumstances, he advocated long-range planning as an essential element in sound corporate management to exploit the opportunities in year-round airconditioning and in solar, atomic and electric heating, and possibly cooling as well.

In summary, Wilson remarked, "About 1965, a housing boom is ex-



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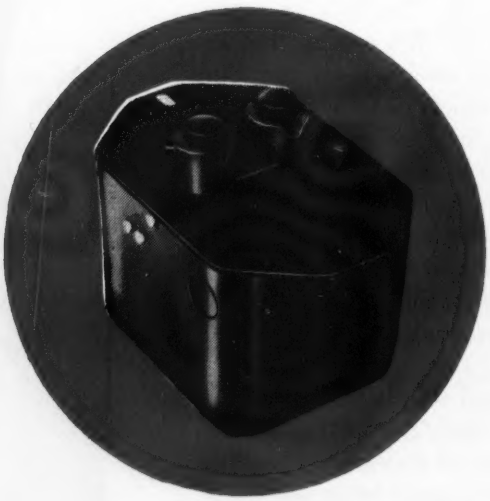

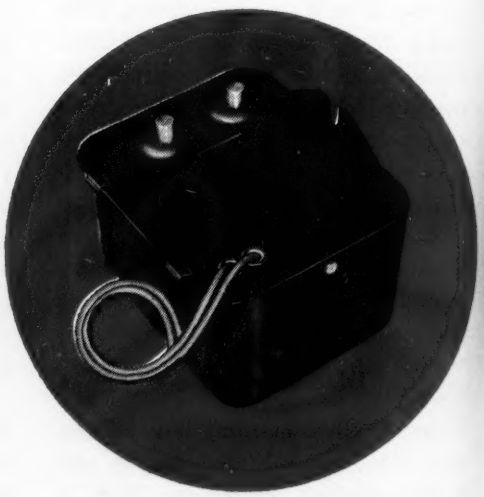

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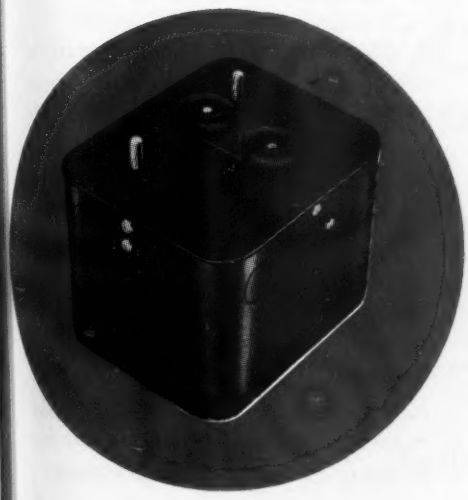

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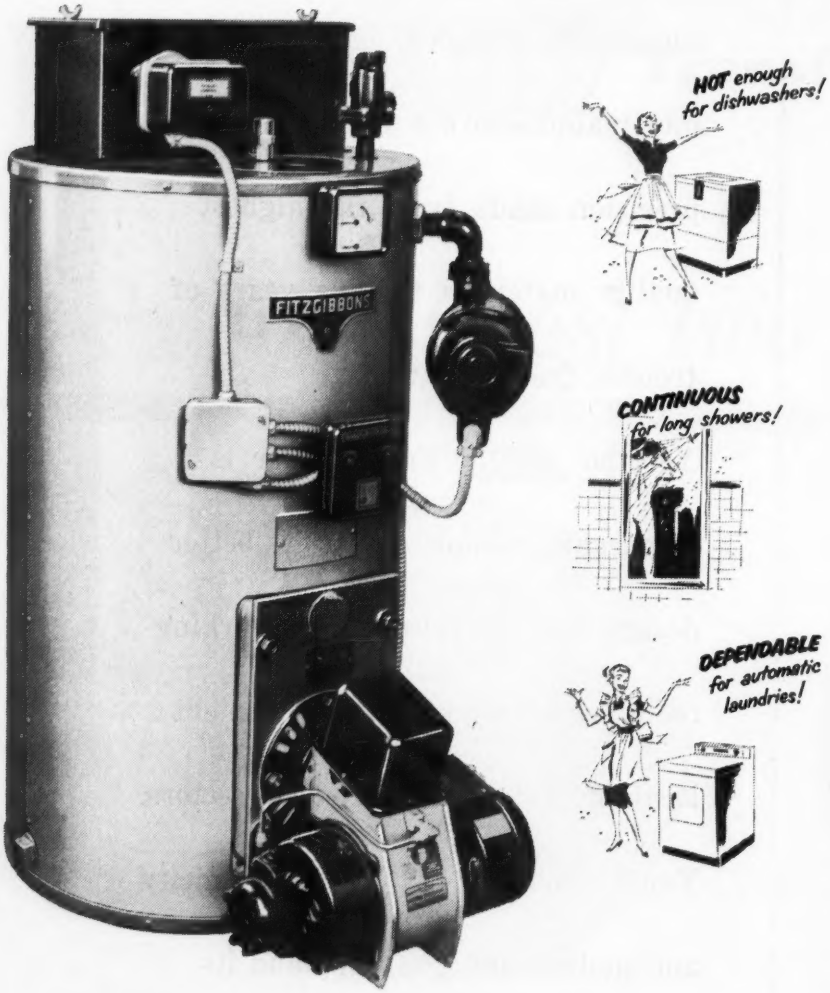
Dependable, economical heat, of course, and hot water for 5 baths an hour!



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. . . completely pre-assembled and wired

If residential hot water supply complaints and resulting call-backs are draining your profits, it's time to switch to the Fitzgibbons 770 Unit. It keeps the hot water coming through bath-after-bath and load-after-load in dishwashers and washing machines. *In fact, it's just about impossible to run the 770 out of hot water!* Check this with any contractor who has installed one. When you do, ask him about the savings in set-up time with this completely pre-assembled and wired unit. Ask your jobber for Catalog 770-10 or write the Fitzgibbons Boiler Company, Inc., 101 Park Avenue, New York 17, N. Y.

SINCE 1886 MOST ECONOMICAL IN THE END 1886 THE FITZGIBBONS BOILER

THE FITZGIBBONS BOILER®

pected that will be much larger than any we've seen before. It will be created by the immediate post-war babies who will then be establishing homes of their own. They will have grown up in the first phase of an amazing revolution in home comfort . . . that puts emphasis on leisure and comfort. It is therefore logical to believe that these homeowners in 1965 will demand much more in the way of home comfort than do homeowners of today.

"The moral is obvious: More will be expected of the comfort generating industry. Conceivably this could mean that the public attitude toward comfort—and the industry—will be more favorable 10 years from now than ever before in the industry's history.

Much can be done

"But there is much that you can do," Wilson told the manufacturers, "through advertising, imaginative merchandising and other promotional efforts, to foster this potential environment. So, I submit that you have the assets; and you have the opportunities.

"Will you take advantage of them? As you look ahead ten years, will you as an industry utilize your assets and, through your association, initiate the long-range planning that will capitalize on the opportunities that exist to make the industry's products more important and useful to the consumer—and more profitable to you?"

Another paper at this November 30 morning session explored "Potential Profits in non-residential Heating." L. S. Redford, Jackson & Church Co., explained that the field is expanding rapidly and presents a promising market. He said that too many companies engaged in producing heating equipment ignore non-residential heating potentials, asserting that this market will play an increasingly important role in the future.

As evidence, Redford cited F. W. Dodge Corp. statistics estimating sizable increases in 1956 for non-residential building and declines for residential building. He declared, "It would be wise for the industry to look closely at this new construction market and properly evaluate it by segments, before it plunges into a selling job. This evaluation will pinpoint the importance

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meets the need for a low-cost quality furnace with the

ALL NEW NIAGARA Series 70

FORCED AIR FURNACE LINE

Model G-70-100FA

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Fully Automatic GAS OR OIL MODELS

9 DIFFERENT OIL-FIRED MODELS FROM .75 g.p.h. to 1.5 g.p.h.

15 DIFFERENT GAS-FIRED MODELS FROM 50,000 BTU to 140,000 BTU

HIGH BOY— DOWN FLOW— BASEMENT MODELS to fit ANY HOME HEATING REQUIREMENT

NEW Construction Features

- Compact Efficient Design
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NEW HEAT EXCHANGER

- Cylindrical in shape—made entirely of 14 gauge steel

Direct or Belt Driven Blowers

- Small-size furnaces equipped with direct-drive, center-motor-mount twin wheel blower.
- Belt-drive blowers optional on all models.

SELECTION OF CONTROLS

Choice of A.G.A. approved Honeywell, Standard or Self-generating controls.

OIL MODELS equipped with famous **NIAGARA OIL BURNER** with the **Supra-Flame Head**

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Skuttle FEATURES

and you'll sell more!

Model 450

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UNIVERSAL HUMIDIFIER
WITH VAPOGLAS PLATES

Only Skuttle is mounted outside heating plant casing. Easily installed. Saves time.

Up to 460 square in. evaporating area with Vapoglas plates. Means more efficiency.

Maintains lower pan temperatures. Less lime in water and less clog.

Skuttle's exclusive plate design allows unrestricted air-stream.

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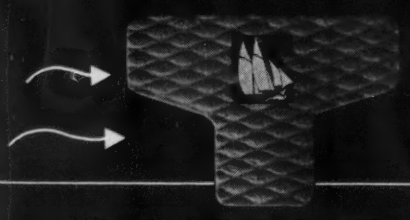

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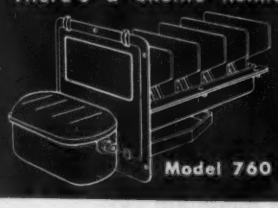
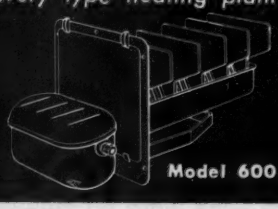
There's a Skuttle humidifier for every type heating plant



Model 760



Model 600 B

of the non-residential heating market."

On Thursday morning, December 1, Tom Byrd, 2nd vice-president of the Association, presided and presented a three-man panel, each of whom recounted the benefits he derived from membership in his local warm air heating association. Participating were: R. P. Johnsen, Atomatic, Inc., Chicago; Martin Schaar, Wisconsin Furnace Co., Milwaukee; James H. Winters, James H. Winters Co., Inc., Nashville, Tenn. The three panel members in general agreed on the following tangible benefits that association membership affords:

Monthly meetings to get acquainted with and "know" competitors.

Co-operative advertising and promotion, permitting members to participate in much more comprehensive programs than individual members could conduct.

Orderly placement and hiring of labor.

Apprenticeship training for new mechanics.

Opportunity to prepare and revise warm air codes at local level.

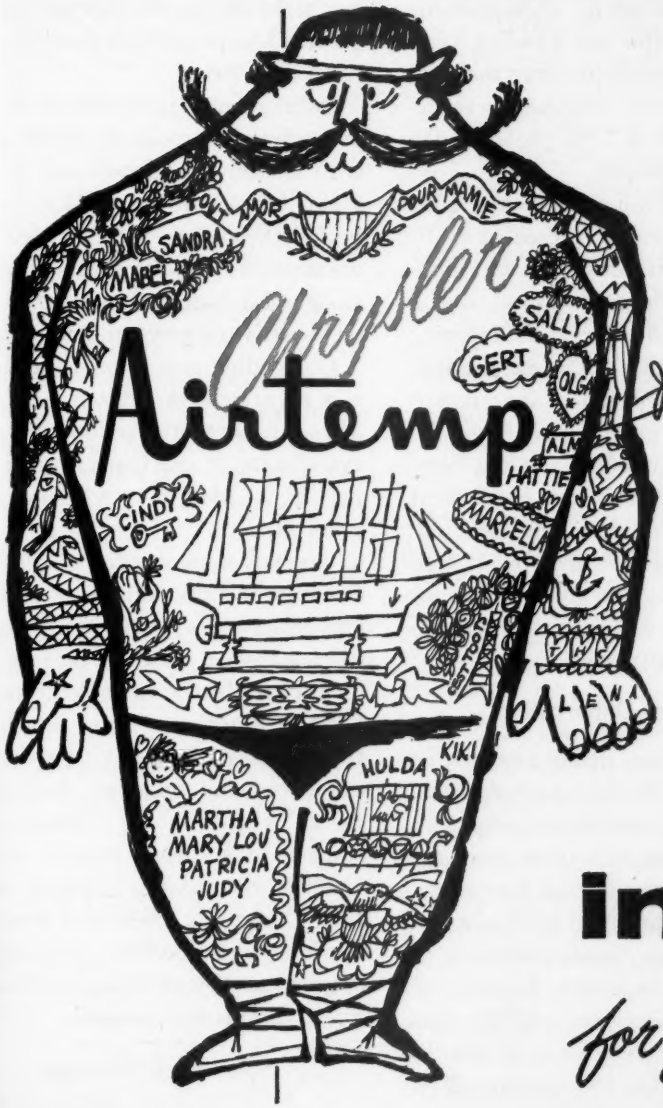
Guaranteed Jobs

In addition, two of the panelists reported on programs undertaken by their associations to guarantee warm air jobs installed by members. This includes provisions for the association to investigate complaints from dissatisfied customers and to assume responsibility for correcting them if the dealer either will not or cannot make good.

In a discussion of dealer selling, H. E. Owens, H. E. Owens & Co., East St. Louis, Ill., contended "A small Business is Profitable, too" and described his method of operation as proof. When Owens takes a heating job, he said, the job is priced from $150 to $200 more than the competition, but the installation is merchandised from start to finish, beginning with a comprehensive heat loss survey and ending with a two hour presentation to the husband and wife making use of a complete blueprint of the proposed job.

As evidence that this has been successful, Owens declared that out of 212 opportunities to bid this year, his company chose to submit estimates for 116 jobs and sold 103 of them.

An interesting adjunct to his regu-



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Airtemp residential heating and cooling equipment is built and backed by Airtemp Division of Chrysler—the name people associate with engineering leadership in products of only the highest quality. With Airtemp, you never have to spend time trying to sell the name . . . the name *helps you sell* the equipment!

There are many other reasons why the Airtemp Franchise can mean more business for you—in heating *and* cooling. Get all the facts! Write Department FOH-1, Airtemp Division, Chrysler Corporation, Dayton 1, Ohio.

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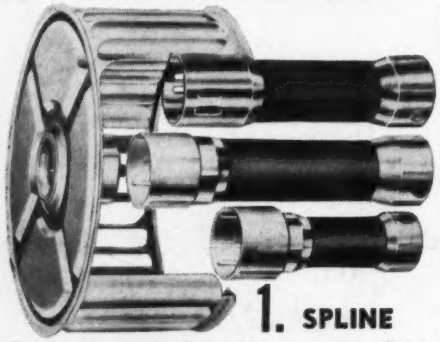
QUALITY is our business
..without *any* compromise
AND ONLY
Guardian
GIVES YOU ALL THREE —



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Quality standard of the industry — Available in Silent Tension Aluminum or DuPont Nylon.

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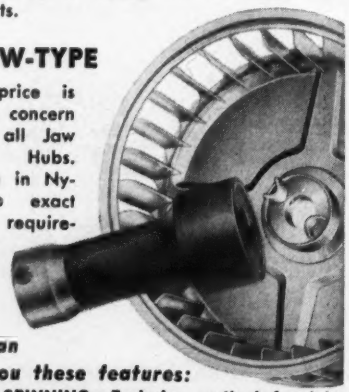
Ultimate to correct misalignment — Furnished in 1/6 to ¾ HP ratings for Oil Burner Requirements.

3. JAW-TYPE

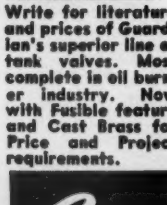
Where price is of prime concern — Fits all Jaw (Lovejoy) Hubs. Available in Nylon to exact length requirements.



Only Guardian gives you these features:

1. **ROLL SPINNING—Exclusive method for joining all three components at one time—Actually made in position of final driving operation.**
2. **BRAIDED RUBBER—Ground to absolute true concentricity. Furnished with BUNA-N TUBE and NEOPRENE COVER. Holds to strict Lateral and Angular Alignment standards.**
3. **ONE-PIECE DESIGN—Minimizes assembly and handling costs—Cut to exact length requirements.**

There are over 4,000,000 Guardian couplings on original equipment. This is your assurance of highest quality and enthusiastic acceptance in the field



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Standard and Economy Kits complete with bushings for replacement. Lengths and bores meet 95% of existing field requirements.

Write for literature and prices of Guardian's superior line of tank valves. Most complete in oil burner industry. Now with Fusible feature and Cast Brass for Price and Project requirements.

Guardian
PRODUCTS CORP.
COUPLING DIVISION

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Michigan City, Indiana

lar dealer business, Owens continued, is a plan whereby he provides a pre-engineered, packaged installation for lumber yards to sell to "do-it-yourselfers," people who are building their own homes. Owens furnishes the complete system and components, realizing better than a 15% profit on the average package sale.

"Profitable Radiations from a good service Department," presented by R. F. Swett, Swett Bros. Htg. & Appliance Co., Springfield, Mass., was a third paper heard during the morning session, December 1. Swett declared that a service department is an important factor in profits, even if the department itself operates at a loss. Service keeps customers happy, Swett went on, and helps build new business; operating a fueloil business as Swett does, service is an absolute must, if only for the reason that it maintains closer contact with the customer.

Service Department

The service department first must be placed on an efficient operating basis, Swett pointed out, particularly with an eye to quality of service, measured against the amount of work performed, calls made per man and call-backs. On new installations, he cited balancing as an immediate important function of the service department, with an additional check in from two to six months to determine that the system still is in balance.

Then a minimum of $20 service reserve for each installation should be established, Swett believes, and credited to the service department against contingencies during the guarantee period. But, a service department is only as effective as the satisfaction it provides. And, with this in mind, Swett explained that his firm answers no-heat calls within 30 minutes, insists upon clean uniforms for his servicemen, courteous customer relations for all employees, recognizing that through service and the serviceman the company maintains a continuing contact with the customer, which can influence future sales both to the customer, his friends and acquaintances.

A good serviceman can make equipment sales and bring in active "leads" for the sales department, continued Swett, and he can help the credit department, too, by furnishing good service, avoiding customer complaints and call-backs because of poor service and prevent non-payment or slow payment for these reasons.

Swett enlarges his customer contacts by enclosing a company house organ with monthly statements and by providing a brochure for builders to give prospects, wherein the functions of a warm air heating system are explained, along with historical and other data on Swett's company and its services.

Concluding session on December 1 was an afternoon devoted to reports of research activities conducted by the Association at the University of Illinois. F. L. Meyer, 1st vice-president, presided.

One report emphasized that in some cases a year-round airconditioning system balanced for cooling had to be rebalanced when used for heating.

Also, studies of air-cooled condensing and night-air cooling established that shutting off the cooling and opening doors and windows during the night when outside temperatures reached 75°F., while no cure-all, did result in some savings in cost of operation. Conversely, there was some discomfort noted when temperatures dropped too low or where high humidity conditions were present.

Split-level Heating

A third report on split-level heating was presented by C. W. Nessell, Minneapolis-Honeywell Regulator Co. and chairman of the Field Investigation Committee. His committee's study concluded that the degree of comfort experienced in these houses is best in the top level, next best in the middle and worst at the lowest level.

In general, Nessell sees the need for a control system that would be able to re-balance air distribution between the various levels from time to time. Also, the lower levels of split-level homes need warm air introduced below the 30" level and require insulation around the concrete floor slab. And, ducts should be imbedded in the floor, with perimeter registers under windows.

All in all Nessell feels that good heating in split-level homes cannot be accomplished with low cost, skimpy in-

stallations, that it requires some cooperation with architects to design a home that will permit more realistic duct layouts and that, while the lower level rooms were found to be distinctly cooler in these field investigations, heating was relatively good in the rest of the rooms.

❖

Heating makes percentage Gain in newspaper Space

AUTOMATIC HEATING advertising during the first nine months of 1955 was up 26.5% over the same period of the year before. According to the Bureau of Advertising, American Newspaper Publishers Association this was the largest percentage gain in the housing equipment classification.

Airconditioning advertising dropped 16.9% for the same period. Fuels increased 6.4%; Heaters and stoves increased 22.9%. However, in actual linage airconditioning accounted for 2,881,495 lines as compared to 1,018,196 for automatic heating. Some 800,597 lines were carried on fuels.

❖

E. P. "Ed" Hacker, *Ballard Oil & Eqpt. Co., Portland, Me., cuts the cake at the company's 35th anniversary dinner held during Oil Progress Week. Mrs. Hacker watches while Walter A. Smith, Esso manager for Maine, offers advice. Others in the picture are Portland City Councillor Harry K. Torrey and P. S. Atkinson, Esso Standard, New York. The dinner sponsored by Esso was highlighted by a presentation of a plaque to Mr. Hacker in honor of the two companies' association during the past 27 years. The cake symbolized Ballard's growth from one Model T truck in 1920 to the 30 trucks it now operates.*

Oil Heat Institute's Board to meet in Cleveland, Ohio

A MEETING of the board of directors of the Oil-Heat Institute of America, New York, N. Y., will be held January 18 and 19 at the Hotel Carter, Cleveland, Ohio. The meeting of the board of directors is open to all OHI members of all divisions.

Division, Section and Committee meetings on Wednesday, January 18, and the morning of Thursday, January 19, are to be followed by the board meeting. This gets under way with luncheon and continues during the afternoon.

❖

New York bans oil Heaters and specifies central Plants

MAYOR WAGNER of New York City has signed a series of laws passed by the City Council designed to halt the growth of slums and make the cold-water flat a thing of the past.

Included is a ban on oil heaters and a provision for central heating to be installed by November 1, 1958 in tenements or converted dwellings with ten or more apartments and in all rooming houses. In buildings with fewer than ten apartments the effective date for compliance is November 1, 1959, while the heater ban is arranged to go into effect on the dates by which central heating must be installed, depending on the class of building.

The bills also call for a new multiple dwelling law, a reorganization of the City's Housing and Buildings Department and renumbering of Sections of the Building Code to make them part of the multiple dwelling laws.

New 10-S
BEARLEE
Tattle-Tale
TRADEMARK
GAUGE
Pat. Pend.
•
Underwriters Listed
•
NEW
Spring Steel
Flexible
FLOAT ROD

The greatest improvement ever made in float type oil tank gauges.

For 42" and 44" Tanks

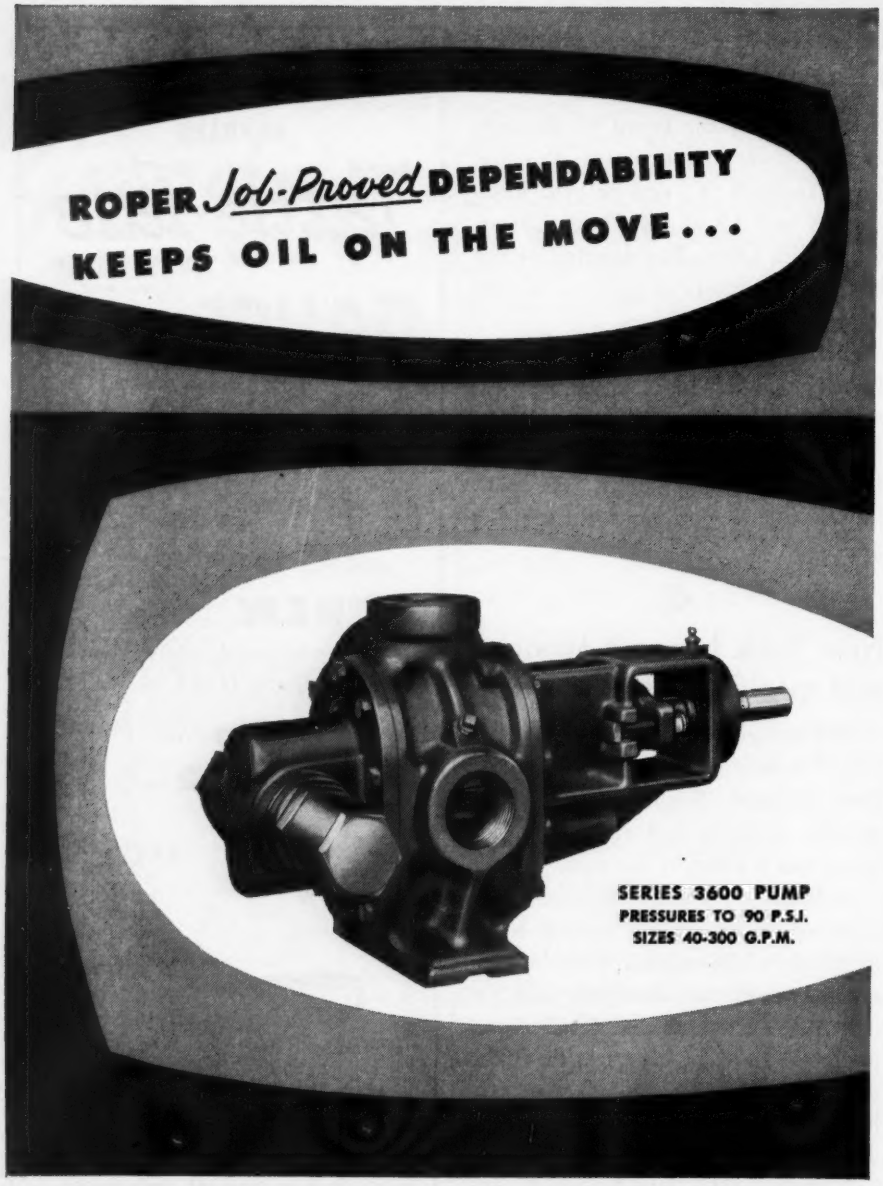
It is being accepted by dealers all over the country, as being the most practical gauge they have ever used. No more gauge tops to remove to install gauge in the tank. Regardless of the amount of oil in the tank, it is impossible to damage the flexible float rod. When the gauge is in the oil the flexible float rod straightens out immediately.

No other gauge has this exclusive feature.

The 10-S Gauge can be installed in almost any location in the tank as it will revolve in a space only 16" in diameter and where tank opening is only 8" from the end of the tank.

WRITE FOR OUR LOW PRICES

Bearlee "Tattle-Tale" Gauges
MANUFACTURED BY
homeward Products Inc.
3420 S. W. 9th St.
Des Moines, Iowa
Tattle-Tale is a Registered Trademark



The Roper Tank Truck Pump and other Series 3600 Pumps for general purpose delivery, answer your needs for *essential* equipment in petroleum handling. Self-lubrication, long-life mechanical seal, anti-friction shaft and thrust bearing, adjustable relief valve, and hardened gears of equal size contribute to dependability. The Roper principle of only two moving parts results in quiet operation and high efficiency. Series 3600 Pumps are available in sizes 40 to 300 G.P.M., pressures to 90 P.S.I. You can rely on Roper . . . preferred as original equipment — widely accepted for replacement.

ROPER
Rotary Pumps

GEO. D. ROPER CORPORATION
761 BLACKHAWK PARK AVE., ROCKFORD, ILL.

'56 Construction expected to break Record set in '55

ACCORDING to estimates recently issued by the Departments of Commerce and Labor, new construction expenditures may reach a record breaking total of $44 billion in 1956. This is 5% greater than the $42 billion peak indicated for 1955.

Substantial gains are anticipated in private nonresidential and public construction. New housing is expected to be slightly below 1955 but will continue at a high level.

Private money will total probably $30 billion in construction during 1956. Public construction is expected to rise 10%—to more than $13 billion. The value of private non-farm residential construction will remain near the 1955 level of more than $16 billion.

Trends forecast by the Departments include: Greater outlays for additions and alterations to older homes. Larger homes with more quality features will keep dollar outlays up even though housing starts drop.

Private non-farm housing starts in 1956 are estimated at about 1,200,000 units—100,000 fewer than in 1955 and 200,000 less than the 1950 peak.

Most of the rise in private construction is anticipated in new non-residential building with industrial building showing the largest relative gain.

❖

Tank Standards suggested by OHI Technical Division

BILL SULLIVAN of Shell, chairman of the Technical Division of Oil-Heat Institute of America, Inc., made several recommendations on tank outlets and the use of inhibitors at a recent meeting of the Flammable Liquids Committee of the National Fire Protection Association.

Speaking in the absence of Bob Gilmartin, Gulf and chairman of the tank corrosion committee, he recommended:

1. The burner supply outlet connection for gravity feed 275 gal. tanks shall be in the head of the tank and only one such opening shall be provided.

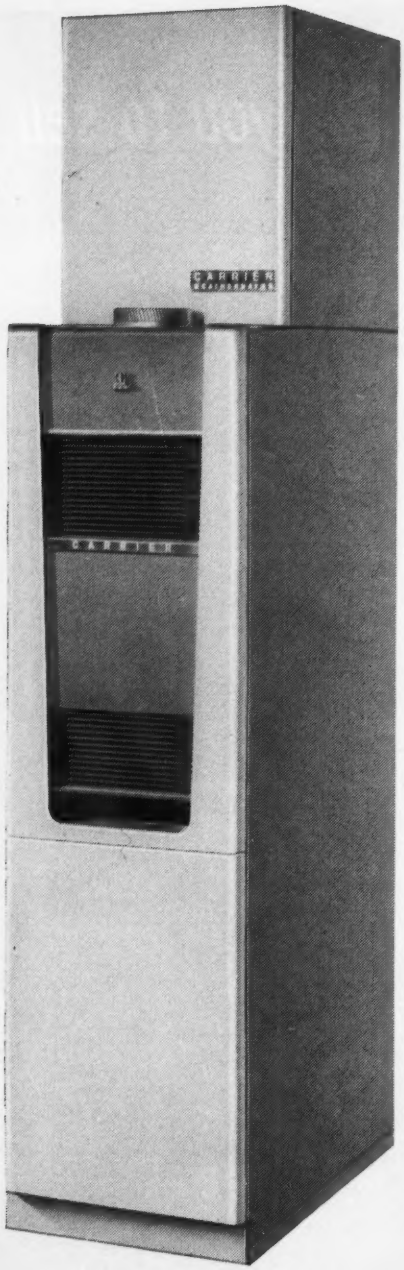
2. The provision in existing regulations, providing for a drain bottom

Now there are Carrier furnaces for you to sell, too!

THE NEW CARRIER WINTER WEATHERMAKER

the furnace with a future

Newest additions to
line will give you



Carrier furnaces will end dealers' slack months

With these new Winter Weathermakers, Carrier brings you a 365-day-a-year busy season. As a Carrier dealer there isn't a home heating or cooling problem you can't solve. To begin with, there's a Winter Weathermaker for every type of home, every climate, every kind of gas or oil—33 models in all.

And the Winter Weathermaker is "the furnace with a future" because it's all set for summer air conditioning—with matching coil casings, ample fan capacity, and a special heating and cooling thermostat. Future business in summer cooling is built right into each furnace.

So cash in on Carrier, the *year-round* profit line! To start the money pouring in, call your nearest Carrier distributor. You'll find his name listed in the yellow pages of your classified telephone book. Or write direct to Carrier Corporation, Syracuse, New York.

This is the new Carrier Winter Weathermaker—"the furnace with a future." The inexpensive coil casing (shown on top) replaces the old-fashioned plenum and the cooling coil may be inserted during the initial installation or at some future date. This upflow furnace is available for either oil or gas and in capacities from 75,000 to 210,000 Btu/hr input.

Carrier Downflow Winter Weathermaker—available gas or oil fired in capacities from 75,000 through 150,000 Btu/hr input. Matching cooling coil section fits neatly under the furnace.

Carrier Horizontal Winter Weathermaker—available gas or oil fired in capacities from 85,000 to 231,000 Btu/hr input. Matching cooling coil section fits in ductwork as shown.

New Weathermaker Control Center—exclusive with Carrier. Instant switching from heating to cooling. The word "COOL," on thermostat, reminds owner that he can add cooling to his furnace.

America's leading air conditioning year-round profits!

Carrier Year-round Weathermaker—for new homes or to replace worn-out furnaces. Heats and cools an entire house. Water-cooled or air-cooled. Uses gas or oil for heat. Capacities from 1.7 to 7.5 tons.

Carrier Summer Weathermaker—for homes with steam or hot water heat or with no central heat at all. Has its own fan and filter. Uses a separate duct system. Available in capacities from 2 to 5 tons.

Carrier Conversion Weathermaker—for existing homes with upflow furnaces. Fits any standard warm air furnace. With air-cooled refrigerating section, it comes in capacities from 2 to 5 tons.

Carrier Conversion Weathermaker—for existing homes with downflow furnaces. Fits neatly below the furnace which is raised only about 12 inches. Available from 2 to 5 tons. Requires no water.

Carrier Conversion Weathermaker—for existing homes with horizontal furnaces. Fits in duct beside furnace. Air-cooled refrigeration section located outdoors. From 2 to 5 tons capacity.

To help pre-sell your customers on Carrier comfort, Dave Garroway and Arlene Francis will reach millions of prospects with the Carrier story on their NBC-TV shows "Today" and "Home."

Carrier

AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING

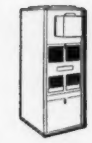
HEILites

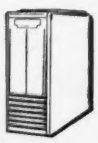
From Joseph F. Heil
President of The Heil Co.

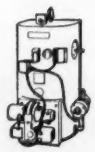
This is the first of a series of columns dealing with some of the interesting things that are happening in our industry and at Heil. The timing seems particularly appropriate because, as you and I know, our industry is really "on the move"; more things are happening than ever before.

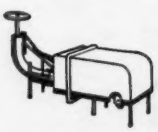
And, when I say "our industry" let me make it clear that I am referring not only to the manufacture of heating and cooling equipment, but to the great wholesaler system that is contributing so much to the health, happiness and general welfare of all America and all Americans. We at Heil are particularly conscious of this contribution because our lot has been cast with the wholesaler method of distribution. And we are happy to see it develop and move in the right direction, as it has been doing.

But despite the progress, we still hear occasional chants from that old refrain "let's cut out the middle man". A lot of people still do not understand the *essential* nature of the heating and air conditioning wholesaler. Nor do they appreciate that the wholesaler's functions *must* be performed. There just isn't any way around them.









Sincerely yours,

Joseph F. Heil.

President

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Support Your HEIL Wholesaler
Work With Him . . . ***and Profit!***

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Dallas, Texas;
Los Angeles, Calif.;
Seattle, Wash.

opening and pitching of the tank towards this opening be eliminated.

3. The heating oil supplier should be required to protect the tank with a suitable inhibitor, such as three parts sodium nitrite to one part borax.

If the vote of the Flammable Liquids Committee is favorable at the annual meeting in May 1957 it will become standard for the industry.

Earlier Sullivan had discussed the outlet problem with Underwriters' and at that time he pointed out that even with bottom outlets water was always retained within the tank. One drop of water under certain conditions would result in corrosion, he said.

He told Underwriters' that tests demonstrated that 250 cc of water in bottom outlet tanks would prevent ignition of oil on restart. "A dealer in Gary, Ind., had 150 freeze-ups in oil lines in one winter," he said.

He emphasized that the use of 4 ounces of sodium nitrite and borax inhibitor neutralizes any acids in the water or oil and this treatment should last about five years in a head opening tank. A tank with a head opening is more effective in retaining the inhibitor than a bottom outlet tank.

❖

Rhode Island Refinery is planned by Paragon

PARAGON OIL CO., INC., fueloil distributor on the east coast, has purchased 750 acres of land in Tiverton, R. I., on which to build a $38-million oil refinery.

The plant will handle 30,000 barrels of crude oil a day. A pipeline will link the refinery with Mount Hope Bay. A sulphur deodorizing plant is also planned.

❖

Massachusetts amends Law regulating water Heaters

A NEW SECTION 17 has been inserted in Chapter 477 of the Acts of 1945 as a result of amendments passed during the 1955 session of the Massachusetts Legislature. The measures relate to requirements governing marking and installing hot water tanks, tankless heaters and similar devices.

There's Modern Beauty Plus Greater Utility in This

New Round Thermostat

- Easy-to-read double dial
- Adjustable heat anticipation
- Easy lever adjustment
- Enclosed snap action switch
- No leveling necessary

The new Crise Round Thermostat has graceful contours and a removable cover that can be painted to match any room setting. Separate scales are provided for both room temperature and temperature setting. A completely enclosed precision snap action switch makes or breaks the circuit—requires no leveling to install. The TR125 Crise Round Thermostat is designed for use on low voltage circuits. For additional information and price schedule write us.

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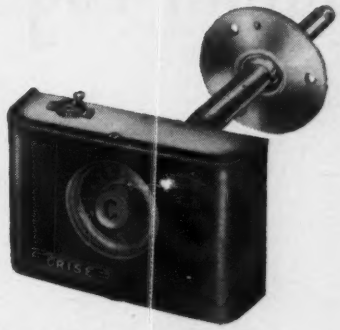
COLUMBUS 16, OHIO

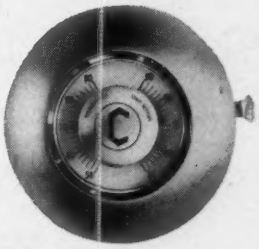
fueloil & oilheat

There's a Dependable Crise Control for Every Application



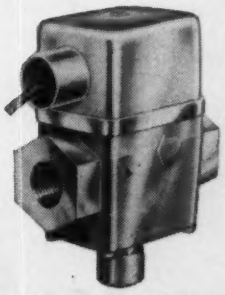
CRISE FAN AND LIMIT CONTROLS

The highest quality in fan, limit and combination controls for automatic heat. All feature clear lucite windows, easy-to-read dials.



CRISE THERMOSTATS

There's modern beauty plus the greater utility of a double scale in this new round thermostat. The removable cover can be painted to match any wall.



CRISE SOLENOID GAS VALVES

Built for use with all types of gases and gas-fired heating equipment. Designed for whisper-quiet operation, long life.

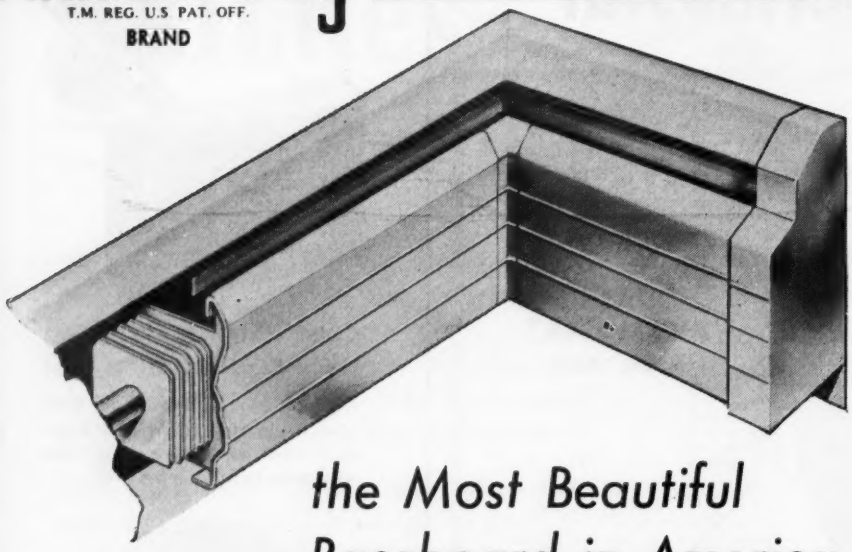
CRISE ZONE CONTROLS

Each Crise Zonetrol is a complete unit. No auxiliary switch, power box, or transformer is required. It's the economical way to zone heating and air conditioning systems.

Get the full story on Low-Cost

radiant-ray BASEBOARD HEATING

T.M. REG. U.S. PAT. OFF.
BRAND



the Most Beautiful Baseboard in America

LOW IN COST

You'll find the new low prices of Radiant-Ray (with UAF*) make it easy for you to compete successfully on every type of residential job—small and large homes, and tightly-budgeted projects. Radiant-Ray is rated and priced to help you sell in volume.

EASY TO INSTALL

You'll actually make more money installing Radiant-Ray than conventional-type baseboard, because of the basic design of this modern radiation. The elements, enclosure, corner and end pieces are designed to be fitted together quickly and snugly.

BEAUTIFUL APPEARANCE

The sweeping horizontal lines of Radiant-Ray actually make the room seem longer and wider. Its subtle, unobtrusive design fits equally well into a traditional or modern setting. Highly praised by architects and decorators, the clean, beautiful design of Radiant-Ray is an important plus-factor in the sale.

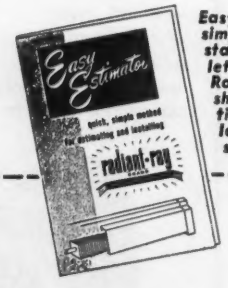
TOP PERFORMANCE

IBR-rated, Radiant-Ray is unusually efficient, has a high rating per lineal foot. Design insures that walls will stay free of dirt patterns. Curtains and drapes may safely be hung directly over this radiation. Air turbulence is minimized.

*Unrestricted Air Flow.

TESTED & APPROVED UNDER
I=B=R
REG. U.S. PAT. OFF.
BASEBOARD RATING CODE

FREE!



Easy Estimator booklet shows quick, simple method for estimating and installing Radiant-Ray. Contains booklet of tables showing IBR Approved Ratings, handy radiation calculation sheets, cost sheets, product illustrations and prices, and layout of series loop system. A valuable guide. Thousands in use.

RADIANT-RAY
RADIATION INC.
P. O. Box 64
Newington, Conn.

radiant-ray BRAND BASEBOARD HEATING

Please send me your "EASY ESTIMATOR" free of charge, and full information on Radiant-Ray baseboard Heating.

Name .....

Company .....

Street .....

City ..... Zone ..... State .....

Among the provisions of the section is one that requires that each hot water tank shall be installed with suitable pressure relief valves where hot water is to be heated or stored under pressure greater than 15 psi. Also, where hot water can be delivered to a tank at temperatures greater than 212°F., such tanks must be equipped with a temperature relief valve, adjusted to prevent development or accumulation of water at higher temperatures.

Perhaps the provision that will affect most oilheating dealers is the one which requires tankless water heaters to "be equipped with a pressure relief valve and an automatic tempering device, set to deliver water not exceeding 180°F. and located between said tankless water heater and any hot water supply pipe which it serves."

Other requirements of the amendment refer to marking of hot water tanks and relief valves by manufacturers.

❖

Bennett merges Business Charlwood Heating Oil

LAWRENCE J. BENNETT, INC., West Hempstead, N. Y., merged its business with the Charlwood Heating Oil Co., Richmond Hill, N. Y., and will open a branch office there at 128-15 Liberty Ave. Bennett also has purchased the plant of The Arrowhead Oil Co., Garden City, N. Y.

During the past year the Bennett company also merged its business with that of four other fueloil companies on Long Island.

❖

Canadian Government to underwrite gas Pipeline

GOVERNMENT FINANCING has been arranged to complete a 2,200 mile natural gas pipeline from Alberta to Eastern Canada. The Northern Ontario stretch will be jointly financed by the Canadian and Ontario governments. Plans call for Trans-Canada Pipe Lines, Ltd., to buy the line as soon as its finances permit.

The pipeline will go as far as Winnipeg next year and then to the border for export to the U. S. Midwest. A

Can be wallpapered to match wall

Can be painted to match wall

Now, solid comfort does not require homely gadgets.
Decro-Stat lid size is only 3-9/16″ x 2-9/32″.
Extends out from wall only 13/16″.
Comes with or without thermometer as desired.
Thermometer is visible or under spring lid.
Adjusting dial is visible or under spring lid.
High precision calibration for complete comfort.
Adjustable heat anticipator for all control systems.
Multiple gold contacts for positive contact.
Adjustable differential.
Low mass bimetal for quick response.
All of these features and SENSIBLY PRICED, too!

Can be engraved or monogrammed

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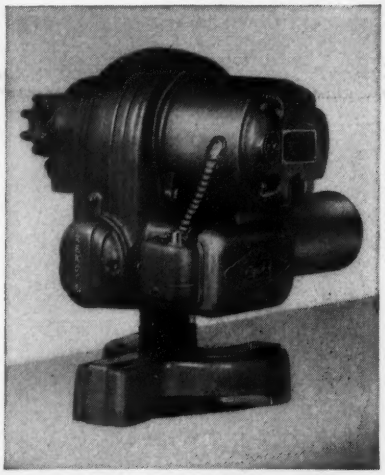
No thermostat can excel Cam-Stat's record of fine service

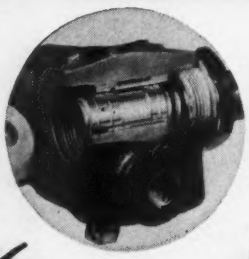
WHY SETTLE FOR LESS . . WHEN YOU CAN HAVE THE BEST?

Rexoil OIL BURNERS

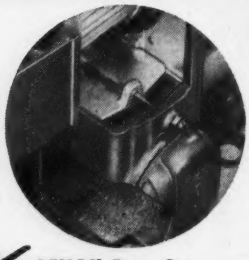


1ST QUALITY PERFORMANCE DEPENDABILITY CUSTOMER SATISFACTION in for over 30 years

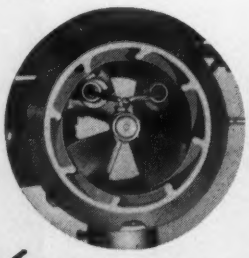
CHECK THESE EXCLUSIVE SELLING FEATURES AGAINST OTHER LEADING MAKES



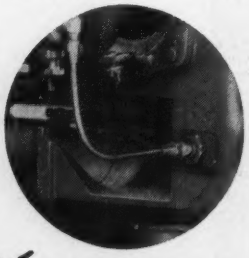
1 REXOIL Oil-Miser
Clean Start—Quick Stop. Saves up to 40% over Ordinary Makes. Clean, Hot Flame — No Fuel Waste.



2 REXOIL Easy-Set Air Control PATENTED
Set it Once — It Automatically Meters the Exact Amount of Air for Perfect Combustion.



3 REXOIL Super-Heat Combustion Head PATENTED
Converts All Fuel Oils into a Perfectly Super-Charged, Atomized Mixture of Oil and Air for Max. Heating Efficiency.



4 REXOIL Turbulent-Stream Air Blender PATENTED
Accelerates Air in a Turbulent Spiral to Completely Mix with Atomized Oil for Perfect Combustion Support.

And it's

Whisper Quiet!

Dealers who are Earners Sell Rexoil Burners

Dealers for years have preferred REXOIL for its Low Installation Cost and Service Free Operation

Don't wait! Write — Wire or Call Jim Brockway collect today at

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37 CARROLL STREET Telephone: WAshington 2420 BUFFALO 3, NEW YORK

Toronto-Montreal pipeline will be constructed to feed Montreal temporarily with U. S. gas now going to Toronto.

Tennessee Gas Transmission Co., Houston, Tex., is buying a one-third interest in Trans-Canada Pipe Lines, according to a recent announcement.

Private financing of the project was snagged on a difficult section of line and under the new agreement the entire line is scheduled for completion in 1957.

❖

Primor Products to become a Division of Borg-Warner

BORG-WARNER CORP., Chicago, announced it has entered into an agreement for the acquisition of Primor Products, Inc., Adrian, Mich. Primor Products is primarily a contract manufacturer of refrigeration units for central airconditioning systems and will be operated as a Division.

Gorton F. Price, president of Primor, will remain with the company in a consulting capacity. He and his associates, Stanley H. Morse, Robert E. Price, John H. Parsons and Robert L. Morse, have formed the Primor Sales, Inc., to design and sell valves to the refrigeration industry.

According to J. H. Ingersoll, Borg-Warner divisional president, the operation will continue to offer the same airconditioning products and engineering services. Plans are in the works to enlarge the manufacturing space of the Adrian plant.

❖

Fluid Coke will be used to generate Electricity

NEW JERSEY homes and industries will get electric power generated from fluid coke, an oil-derived material resembling black sand. The Public Service Electric and Gas Co., Newark, has contracted for the total output of the fluid coking unit recently completed at Esso's refinery in Baltimore.

The fluid coking process was developed by Esso scientists to make gasoline and fueloil from heavy tar-like substances left over in conventional refining. It allows refiners to get 10% more gasoline from a barrel of crude.

"Doesn't he know that by specifying White-Rodgers Controls he can cut out all those complaints?"

Complaints or congratulations . . . which will you get from your customers? Controls can often make the difference, you know.

This dependable and accurate White-Rodgers stack switch, for example, is engineered to operate reliably at temperatures as low as 200° . . . and as high as 1000°. Gives you the reliable operation you need to make modern oil burner installations work perfectly . . . right from the start!

WHITE-RODGERS *Controls*

FOR HEATING • REFRIGERATION • AIR CONDITIONING

ST. LOUIS 6, MO.
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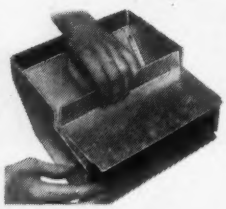
DUC-PAC

Prefabricated Fittings

CUT YOUR COSTS

. . . on Handling



Duc-Pac unassembled fittings, individually banded and identified, offer space-saving compactness that permits stocking ahead. Duc-Pac fittings PRESS together **in seconds** . . . eliminate need for any "hammering-over" of edges.

. . . on Installation

Drive cleat and "S" lock fitting-to-fitting connection saves time . . . simplifies installation in hard-to-get-at places . . . generally eliminates any need for special fittings . . . permits **one** man to hang trunk line.

Write for complete information on Duc-Pac . . . practical pre-fab fittings for all domestic and light commercial heating or air conditioning duct installations.

DUC-PAC

DIVISION OF SWETT BROS.

78 ISLAND POND ROAD

SPRINGFIELD • MASSACHUSETTS

Fire Report lauds safety Record of power Oilburners

A REPORT issued last September by the National Fire Protection Association included a special investigation of oil-burning equipment fires during the heating seasons of 1953-54 and 1954-55. An exceptionally high record of safety was achieved by power oilburners in the study which was accumulated from 25 states and the District of Columbia with reports of 513 fires in the 1953-54 season and 1,273 which occurred in the 1954-55 heating season.

The report showed that not a single life was lost in either of these two heating seasons due to power oilburners; only 20 persons were injured during these two heating seasons in fires that can be attributed to power oilburners.

Fred Beckwith, who reported these figures in the Oil-Heat Institute of New England's regular bulletin to its members comments, "When you consider the millions of power oilburners in use, we can justifiably be proud of this record."

❖

Builders' Show, Jan. 22-26 to have heating Displays

MORE THAN 50 leading brands of heating and airconditioning equipment will be on display at the National Association of Home Builders Exposition in Chicago, January 22-26. The Association's annual convention will be held during this week at the Conrad Hilton and Sherman Hotels.

One of the features of the show will be a "How to Do It Circus" to be held in the Chicago Coliseum. During the first sessions, builders will see the actual construction of the shell of a house completed in two hours. At the second session, the plumbing and airconditioning systems will be installed.

On the technical side of the program will be clinics and shop talk sessions on airconditioning techniques, as well as many other topics.

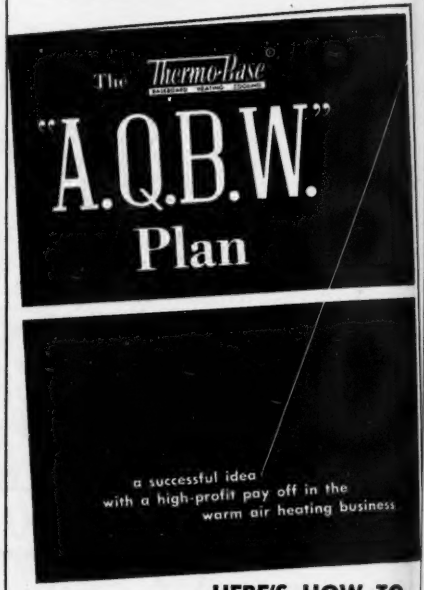
Those who are not NAHB members and wish to attend should write direct to Convention Headquarters, National Association of Home Builders, 111 W. Jackson Blvd., Chicago 4, Ill. Anyone connected with the home building industry is eligible to attend.

STOP!

DON'T TURN THE PAGE UNTIL YOU READ THIS IMPORTANT NEWS FROM

Thermo-Base®

BASEBOARD HEATING COOLING



HERE'S HOW TO MAKE MORE MONEY IN THE WARM AIR HEATING BUSINESS

It's all explained in the valuable Thermo-Base "A.Q.B.W." Plan booklet shown above. It will *prove* that, with very little extra effort on your part, you can make more sales *and* profit on your warm air heating and cooling installations. Its yours FREE from the manufacturers of Thermo-Base—America's pioneer unitized *baseboard* heating and cooling system.

Just fill out the coupon and send it in TODAY. There will be no *extra cost to you* in putting this *proved* "A.Q.B.W." Plan to work. And you will find, as hundreds of other alert dealers have, that it *really works!*

SEND COUPON TODAY!

We will also include a copy of the beautiful new full-color Thermo-Base catalog and a facsimile of the sales-clinching Thermo-Base *Comfort Guarantee.*

GERWIN INDUSTRIES, INC.
Dept. 25 Michigan City, Indiana

Gentlemen:

Please send the Free "A.Q.B.W." Plan by return mail.

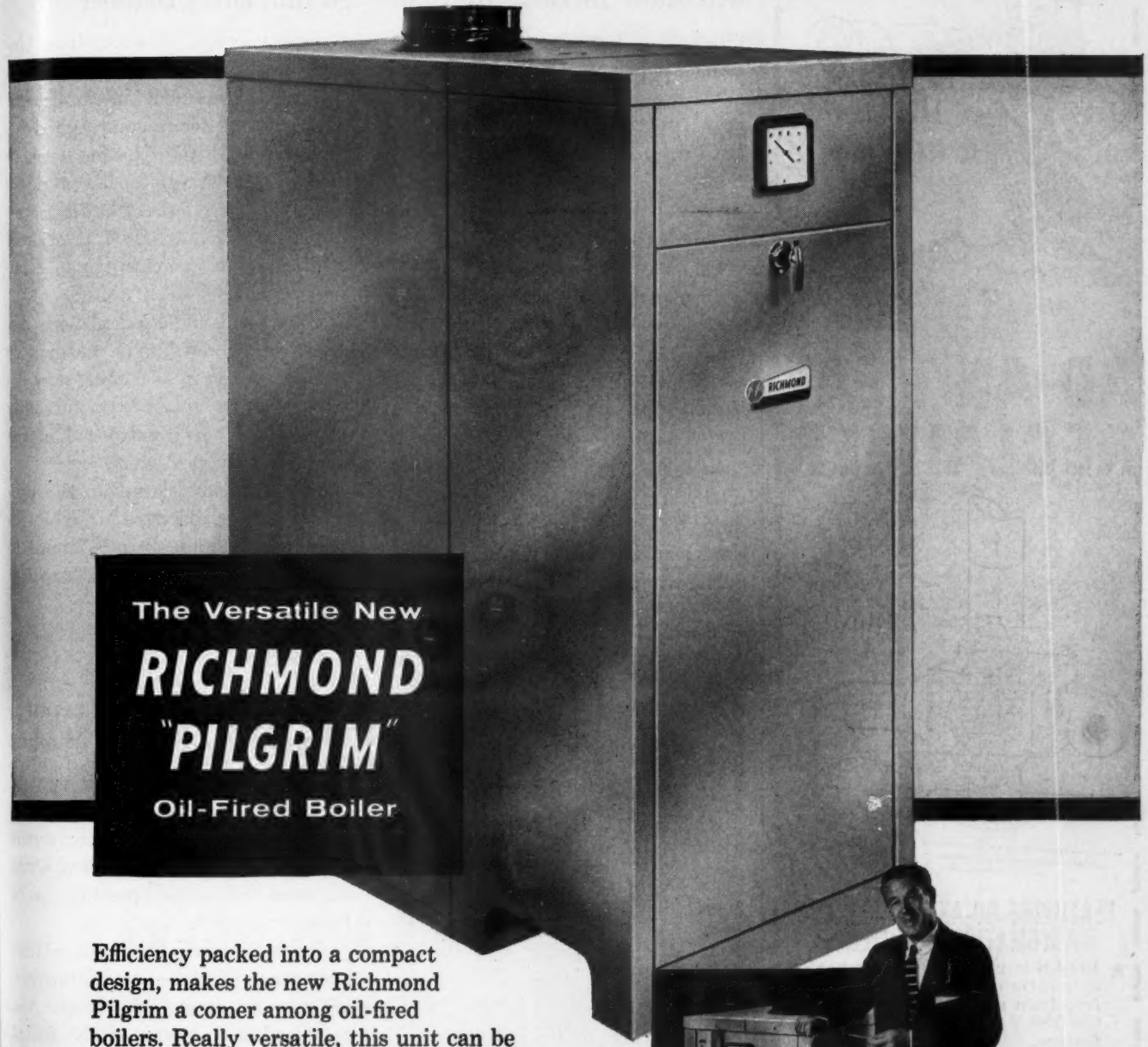
NAME_____

COMPANY_____

ADDRESS_____

CITY_____ STATE____

EASY TO INSTALL...EASY TO SELL!



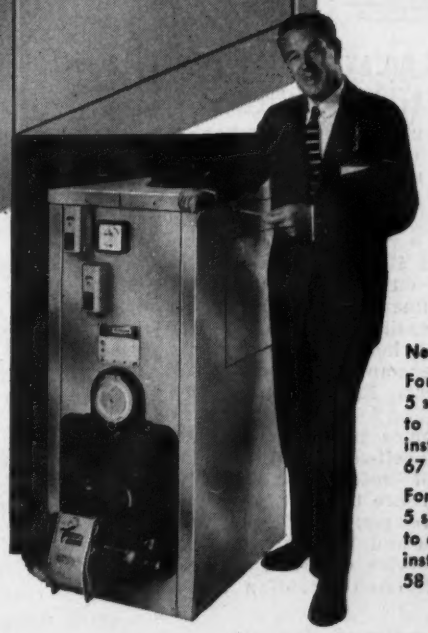
The Versatile New

RICHMOND "PILGRIM"

Oil-Fired Boiler

Efficiency packed into a compact design, makes the new Richmond Pilgrim a comer among oil-fired boilers. Really versatile, this unit can be used for steam or hot water systems. The wet base design extracts maximum heat from the combustion chamber, permits installation on combustible floors. It is available with handsome extended or flush jacket "Duradized" to resist rust and corrosion, and with or without tankless heater for domestic hot water.

Ideally suited for small space installations in basements, utility rooms or closets, the Richmond Pilgrim has an important place in your future installations. Write for complete information.



Net IBR Ratings

For Hot Water:
5 sizes — 445 to 1080 sq. ft. installed radiation 67 to 162 MBH/HR.

For Steam:
5 sizes — 240 to 600 sq. ft. installed radiation 58 to 144 MBH/HR.

Look to RICHMOND for a complete line — automatic heating —central summer cooling units.

RICHMOND HEATING · COOLING

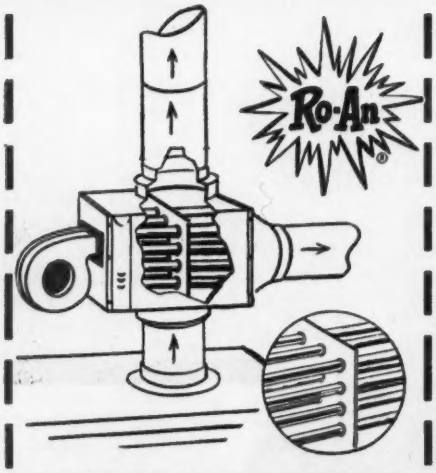
RICHMOND

RADIATOR COMPANY

16 Pearl Street, Metuchen, N. J.

AN AFFILIATE OF REYNOLDS METALS COMPANY

RO-AN HEAT RECLAIMER



FEATURING RO-AN'S EXCLUSIVE AUTOMATIC DE-SOOTER!

★ **RO-AN** is unique in that it has an automatic de-sooter to keep tubes free from soot accumulation—it is the ONLY heat reclaimer with this feature.

★ **RO-AN** is a money-maker for you because of its reliability. Put it into your customer's house. She will recommend others to you.

★ **RO-AN** is easily sold because it provides extra heat for extra rooms . . . like dens and playrooms . . . at no added cost. Extra-ordinary sales appeal.

★ **RO-AN** comes packed as a unit, completely self-contained, includes blower and motor, installs easily, no interference to draft.

★ **RO-AN** gives you 2 profits, 1 at the installation and 1 during the year in your service contract, because of the minimum attention it requires.

CALL OR WRITE TODAY!

RO-AN MFG. CO.

970 FULTON STREET,
FARMINGDALE, L. I., N. Y.
CALL—CHapel 9-6080

MAKE MONEY WITH RO-AN!
BUILD SALES WITH RO-AN!

Dodge expects Construction will show Increase in 1956

FURTHER CONSTRUCTION GAINS are expected by F. W. Dodge Corp., New York, next year though less spectacularly than during 1955. Thomas S. Holden, vice chairman, expects nonresidential construction to increase sufficiently to offset a moderate decline in housing activity.

He looks for an overall gain of 3% as compared to 1955's expected gain of 23% over 1954. He estimates the 1956 total at about $25,155,000,000. If attained this 1956 total will be the eleventh consecutive year of construction volume increase.

It is expected that the nonresidential total will go up 9%; the residential to drop 6%; non-farm dwelling unit starts may drop 10%; but utilities and public works may increase 13%.

Captain Edwin H. Lewis, *head of the Lewis Transportation Corp., left, with Harvey W. Lewis, president of the Lewis Oil Co., Inc., Port Washington, N. Y., at dedication of bronze plaque in memory of their father and uncle, George H. and Frank L. Lewis, who, 60 years ago, started the company.*

The plaque reads simply—"To the Memory of George H. and Frank L. Lewis, who, in the year 1895, laid the modest foundations of this business. Their courage, foresight, and hard work were in the finest tradition of America's system of free enterprise. Dedicated December 15, 1955."

The elder Lewises, their shell fishing business ruined by government decree condemning Manhasset Bay waters, refused to admit defeat, turned their barge to hauling coal, and from the coal business went into the fueloil distribution field on Long Island.

Smoke-testing Requirements go into effect October '56

A RECENT ANNOUNCEMENT from Underwriters' Laboratories urged manufacturers to resubmit automatic mechanical draft oilburners designed for domestic installations having a maximum capacity of 8 gph as soon as possible. Compliance with smoke-testing requirements by October 15, 1956 will be necessary if equipment is to carry label CS75.

Testing is being handled with dispatch at the Northbrook Laboratory now, but delays in scheduling may develop if large numbers of currently listed burners are resubmitted in the later part of the program.

Any inquiries relating to the program should be addressed to the Northbrook, Ill., Station, Box 247, and to the attention of R. N. Just, associate engineer.

❖

Fueloil & Oil Heat's report on warm air heating Market

A REPORT on the warm air furnace market was issued recently by FUELOIL & OIL HEAT. Included in the report is a state breakdown of oilfired warm air sales and units operating as of January 1, 1955.

A distorted map shows the relative importance of the country's marketing areas on a percentage basis. Also contained is a survey of the fueloil dealer's activity in the airconditioning field.

The booklet is entitled "703,600,329,600 Cfm and your Profits," the title referring to an estimate of the volume of warm air delivered in a year by oilfired warm air furnaces operating in 3,490,081 of the nation's homes during 1955. Included is a "Valley of Decision" page, discussing the probable future sale of comfort cooling equipment connected with oilfired furnaces.

Other sections explore ways that dealers handle duct work and describe the estimated 33,544,218 service and oil delivery calls made on oilfired warm air heated homes as an opportunity for the sale of accessories and modernization work.

Here's how a fuel oil dealer increases customer confidence

— and reduces service calls!

by supplying clean, dry fuel oil

AABERG USES WARNER LEWIS SEPARATORS FOR . . . . . efficient water separation
solids filtration down to 5 microns
assured quality product

RESULT . . . . INCREASED BUSINESS

Warner Lewis Company Offers Two Separator Designs

- **Excel-So Separator-Filter** contains bulk filtration media designed for long life — efficient water removal — excellent solids filtration
- **Fram Liquid Separator-Filter.** Most efficient equipment ever! Removes essentially all free water — filters to 5 microns

WARNER LEWIS COMPANY
BOX 3096 TULSA, OKLAHOMA

WRITE FOR DETAILS

DIVISION OF FRAM CORPORATION

Make Your
For More
Thatcher
FURNACE COMPANY
Specialists in heating Since 1850

Move Now
Sales... Bigger Profit With Thatcher!

Thatcher's Complete Line

Make sales faster, easier with the backing of a *complete line* company! *Every* type of unit—for *all* fuels—for *every* system. Puts you in a position to sell *both* the new construction and modernization markets. And most important: Thatcher's winter heating and summer cooling lines assure you year 'round business—year 'round profits!

Thatcher's Complete Sales-Building Program

Spark buying action with a proven power-packed program! Hard-hitting, national consumer advertising—special sales-training manuals—cooperative exhibit program—full store and on-the-job dealer identifications—special Modernization Sales Promotion Kit . . . plus many other tested sales "go-getters". Everything you need to alert *more* prospects . . . close *more* sales.

Thatcher's Complete Consumer Confidence

All prospects want the feeling of positive protection for their investment. They'll buy faster and more confidently from *you* when you offer the plus values of Thatcher equipment . . . backed by Thatcher's 10-Year Guarantee on all warm air conditioners. It's *one* of the many sales features that continue to give Thatcher wholesalers and dealers that extra edge on competition!

Thatcher's Complete Personalized Assistance

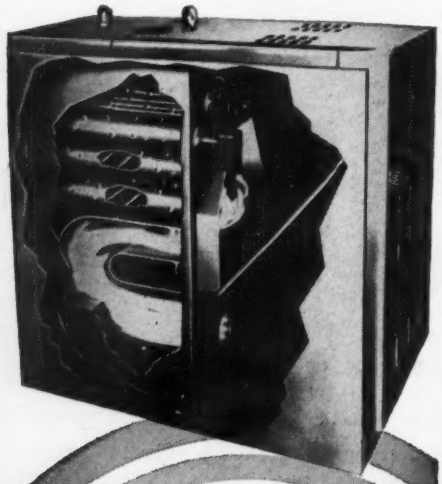
Thatcher has been geared to consider your sales problems individually . . . to work with you on the special needs of your market. Only this kind of *close, personal* relationship can properly advance your interests . . . add to your success!

Get The Jump On Competition , oday!

Make your move now . . . write to Thatcher Furnace Company, Garwood, New Jersey. Complete information will be sent to you immediately.

THE NEW YORKER HORIZONTAL BOILER

...offers you top efficiency and economy!



The NEW YORKER horizontal tube boiler provides top heating efficiency because of its scientific "three-pass" design, offering maximum heat transfer and lowest stack temperature. All heat passages are surrounded by heat-absorbing surfaces. Beautifully jacketed in blue-and-gray hammertone finish.

- Oversize, large capacity tankless water heater.
- Fire-tubes of extra heavy gauge steel.
- Pre-cast combustion chamber withstands temperatures up to 3200° F.
- Fire-tubes easily accessible.

Send coupon NOW!

New Yorker Steel Boiler Co., Inc.
Colmar, Penna.

Gentlemen:
Please rush me full information and prices on the New Yorker horizontal tube boiler!

Name .....

Street .....

City ..... State .....

Type of Business .....

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to the editor by the 5th.

Better Heat with Oil Council organizes in New York City

THE NEWLY-FORMED Better Heat with Oil Council, Inc., located at 550 Fifth Avenue, plans an intensive oil heat promotion campaign for New York City in mid-March of 1956. Arthur T. Soule, Jr. (Patchogue Oil Terminal Corp.), chairman, noting that the first year's goal is $250,000, announced the opening of a preliminary drive for investments in the program. Assisted by Clyde O. Caldwell (Esso Standard Oil Co.), vice-chairman, and Joseph Schwartz (Whale Oil Co.) secretary-treasurer, Mr. Soule appointed key representatives to broadcast the Council's two-fold aims to the industry:

To educate the public on the many advantages of automatic oil heat and promote its sale and increased use.

To institute a continuing campaign that will enlist the full support and participation of all industry segments.

From an industry-wide representation, including major suppliers, manufacturers and distributors of equipment and supplies, terminal operators and bulk distributors and dealers, two committees have been appointed, Executive and Finance, to create the structure necessary for successful operation and financing of the program.

Chairmen of these committees are Fred W. Heaney (Skaggs-Walsh, Inc.) and Francis X. Carroll (Metropolitan Petroleum Corp.). Engaged as executive director of the new Council is Charles R. Laudor, formerly adv.-public relations director, New York Oil Heating Association.

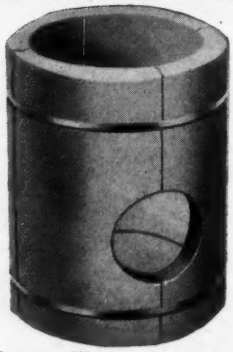
New England service Classes start new Series of Schools

A NEW SERIES of burner service schools, Group II, sponsored by the Oil Heat Institute of New England, Boston, begins on January 9 at Providence, R. I., January 10 at Hyannis, Mass., Janu-

SAVE TIME ON THE JOB • SAVE FUEL FOR YOUR CUSTOMERS

Install

NU STANDARD KOLBKAST COMBUSTION CHAMBERS



Here's why you'll save time on the job, fuel for your customers when you install NU STANDARD Kolbkast Combustion Chambers:

- **there are only six pieces to assemble**
- **tongue and groove construction fits together quickly, snugly**
- **galvanized steel bands draw the assembly tight—prevent gas loss and improve combustion efficiency**
- **the base, recessed ¼", provides an air space that gives better insulation to the floor**
- **millions of air cells in the structure of the chamber itself retard the transfer of heat through chamber walls**
- **insulating properties are equal to insulating brick**

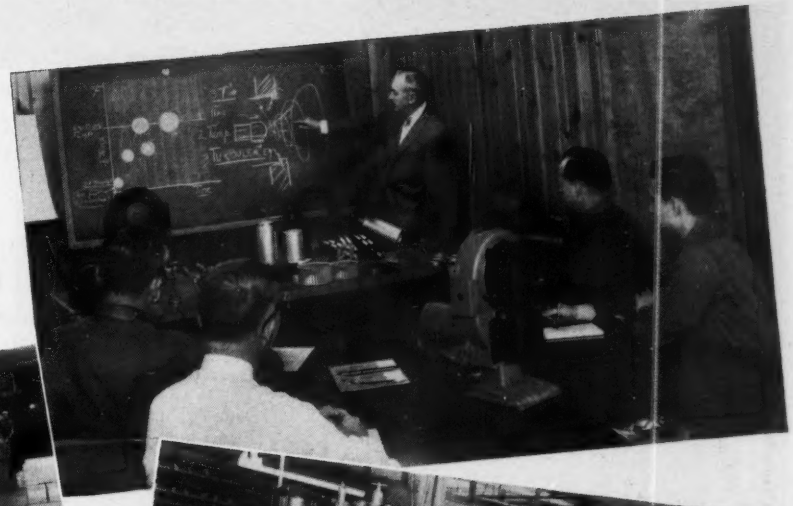
The NU STANDARD can be used with high or low pressure burners and it is available in five sizes to meet all your requirements. Shipped complete with steelbands and scientifically packed to prevent breakage. Shipping weights are low.

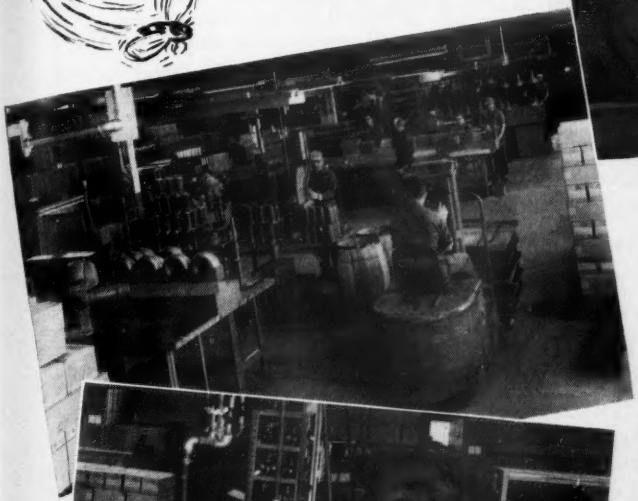
Get full details today on these low cost chambers.

KOLB REFRACTORIES CO.
MEADOW & JACKSON STREETS
PHILA. 48, PA.

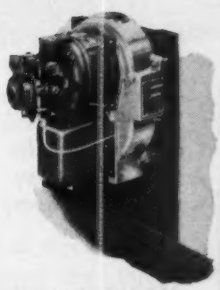
KOLBKAST INSULATED CHAMBERS

Yes... We're Busy at Beckett's!





Every Year of Beckett Company History Has Shown Steady Growth in Volume.



"Plate-Mounted"
for "Unit" applications
.75 to 6.0 gph.

- Every year more and more furnace and boiler units are furnished with Beckett Burners as standard equipment.

There Must Be A REASON!

"Conversion" companion to the *"Plate-Mounted"*
.75 to 13.0 gph.

R. W. BECKETT CORPORATION • Elyria, Ohio • On U. S. Route 20

Sell yourself
some
year 'round business
Every Metropac installation makes a year-round oil customer. Metropac and only Metropac puts water heating in summer months on an economy basis.
Metropac is a warm air heating furnace and a good one — and built into this furnace is a storage tank with the exclusive Metrofin coil unit — together they give efficiency, economy and fast recovery.
Metropac comes in five sizes to fit all home heating jobs — and for year-round air conditioning.
Satisfy your customers — put your oil business on a twelve-month basis.
Metropac
WARM AIR FURNACE
WITH BUILT-IN HOT WATER UNIT
Distributorships available in some territories
METROMATIC
MANUFACTURING CO.
15 Winchester Street
Medford, Mass.

ary 11 at Brockton, Mass., January 12 at Malden, Mass. and January 13 at Framingham, Mass. The schools then continue on the same schedule at weekly intervals for a total of ten consecutive night classes.

The first group in this series of schools started last September 12; Group III opens March 26 at Pittsfield, Mass., then on successive days in New Britain, Hartford, New Haven and Bridgeport, Conn.

Classes in Group II get underway with a series of instruction on controls, specifically Mercoid, General-Perfex, Penn and General Electric. Next topic covers the service and installation of Shell head burners, followed by "Trouble shooting wet heat Equipment," "Servicing wall flame or rotary Burners" and, finally, "Servicing General Electric heating Equipment."

Complete details are available from Institute headquarters, 839 Beacon St., Boston 15, Mass. Tuition for ten lectures is $25, with a 20% discount offers to Institute members.

IAM to publish Handbook for vaporizing burner Servicemen

AN EDUCATIONAL and promotional campaign was launched by the Oil Division, Institute of Appliance Manufacturers, Washington, D. C., during the group's year-end conference at Cincinnati, December 5 and 6.

Announced at the meeting was publication of a vaporizing burner service manual, "Vaporizing Oil Burners—A serviceman's Handbook," prepared by William H. Hohmeyer, Detroit Controls, for IAM's Oil Division. The 114-page manual covers all phases of vaporizing burner service and is illustrated with 160 drawings. Included are chapters on Chimney and Draft, Rules on safe Installation, Fueloil, Oil handling Parts, Auxiliary Equipment, Installation, Adjustment and Service. The publication, probably the most comprehensive on vaporizing oilburners ever undertaken, covers the characteristics of all known makes of vaporizing burners. Bound in glossy, wear-resistant Chromecote cover, the manual sells for $1, postpaid.

The manual is an enclosure in a brochure, "Facts and Figures on oil Heaters." Robert W. Sloane, A-P Controls Corp., presided at a meeting of the Oil Division's Technical Information Committee, and described the brochure being sent to about 1300 fire chiefs and marshals and major oil companies. The report contains statistics on the growth of the vaporizing burner market, pointing out that these units now consume approximately 128,00,000 bbls. of fuel-oil each year.

It goes on to emphasize the safety of correctly installed and serviced vaporizing burners and includes information on publications for fire chiefs and a National Fire Prevention Association home fire inspection blank designed to promote fire safety.

At the general session of the Oil Division A. J. Meltz, merchandise manager, heating oils, Standard Oil Co. (Ind.) described "A co-operative Approach to oil heater Marketing."

ASHAE plans annual Meeting in Cincinnati, January 23

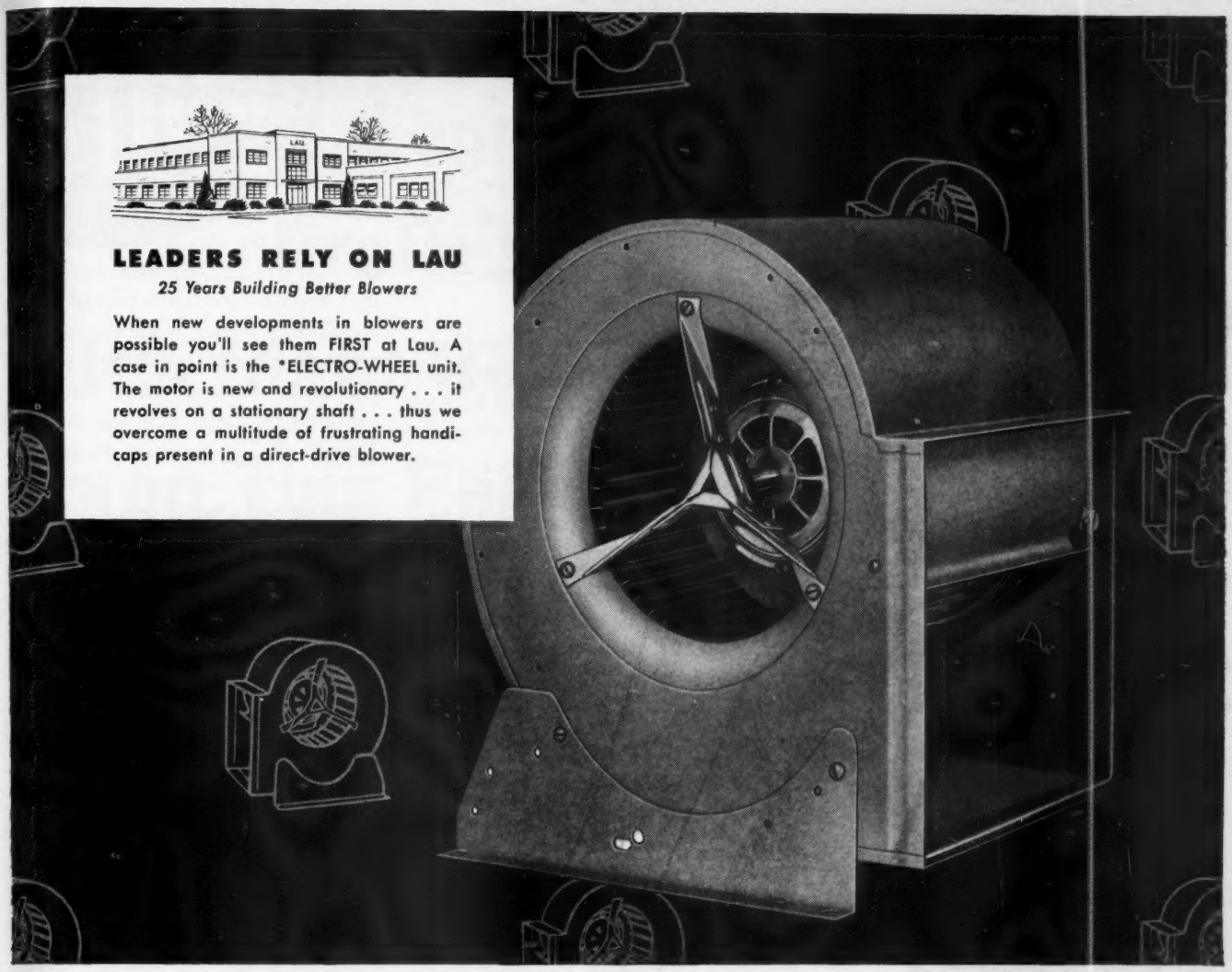
THE ANNUAL MEETING of the American Society of Heating and Air-Conditioning Engineers will be called to order January 23 by John E. Haines, president. Eight sessions are planned at the Sheraton-Gibson Hotel, Cincinnati, Ohio.

During the three-day meeting, 16 papers will be presented. Panel discussions are planned on high velocity air distribution and air pollution.

Newly elected officers will be installed at the annual banquet. Haines will be presented with the past president's award, and Dr. Robert W. Keeton, Chicago, will receive the Society's highest honor, the F. Paul Anderson medal.

Among the papers of special interest to the oilheating industry are the following: Performance of Covered Hot Water Floor Panels by E. L. Satain and W. S. Harris; Thermal Design of Warm Water Ceiling Panels by L. F. Schutrum, C. M. Humphreys and G. V. Parmelee; Evaluation of Equipment Noise by H. C. Hardy and D. E. Bishop.

Others: Elements of Dual-Duct Design and Performance by N. S. Shataloff; Branch Fitting Performance at High Velocity by C. M. Ashley, S. F.



LEADERS RELY ON LAU

25 Years Building Better Blowers

When new developments in blowers are possible you'll see them FIRST at Lau. A case in point is the *ELECTRO-WHEEL unit. The motor is new and revolutionary . . . it revolves on a stationary shaft . . . thus we overcome a multitude of frustrating handicaps present in a direct-drive blower.

FIRST IN THE INDUSTRY

THE LAU BLOWER COMPANY

2000 Home Avenue • DAYTON 7, OHIO

Other plants at Kitchener, Ont., Canada, and Azusa, California

*ELECTRO-WHEEL is the name of this new Lau direct-drive blower that will deliver *more* air with *less* power load than ever before, because it has unobstructed air inlets on both sides of the wheel. The new, compact motor, an integral part of the blower wheel center disc, revolves on a stationary shaft, rubber-encased on both ends. This means efficient elimination of noise and vibration. And two rigid tripod mountings have minimum interference to air flow . . . give greatest shipping strength. Five sizes: 9" and 10" wheels; air deliveries from 500 to 1500 cfm; ¼ h.p. motor. Available with or without housing supports which may be mounted in pre-punched holes for any discharge angle. Write Lau, Dept. M for further data.

LB-1-56

*Trade Mark

WORLD'S LARGEST MANUFACTURERS OF AIR-CONDITIONING BLOWERS

ELIMINATE This...

OUTSIDE BAG FROM YOUR G. E. or PREMIER FURNACE CLEANER ...Get the SOOTMASTER *Filter Unit*

with THROW-AWAY BAG!

SOOTMASTER Filter Unit, designed for easy installation in container of G. E. and Premier Furnace Cleaners, eliminates the outside bag. Gives double protection against leaks and blow-outs. THROW-AWAY BAG provides a safe and easy method of dirt disposal.

$19.75 Complete with 10 throw-away bags and quick-release tie-cord.

- *Order from your jobber*
- *Jobbers' inquiries invited*

Master-Craft SUPPLY CO., INC. HAVERSTRAW, NEW YORK

Gilman and R. A. Church; and Self-Actuated Room Control from High Speed Air by E. F. Snyder, Jr.

On the High Velocity Air Distribution Symposium will be M. W. Wilson discussing duct design; John Everetts, Jr., economics, costs vs. velocity; C. W. Lemmerman, fan and air noises; K. A. J. Monier, duct construction; and R. D. Tutt, field testing.

At the Air Pollution Symposium, Prof. C. H. Pesterfield is to be vice-chairman and on the panel will be Arthur Stern, health aspects; Gordon Larsen, smog; Harry Ballman, regulations; J. W. May, cleaning; Charles Gruber, practical approach; and J. H. Carter, enforcement.

Arthur W. Edwards is general chairman of the arrangements, assisted by Harold E. Russell, vice chairman.

Wholesalers hear Levine speak on Merits of Airconditioning

S. J. LEVINE, general manager of General Electric's Home Heating and Cooling Dept., Bloomfield, N. J., was a featured speaker at the 1955 convention of the National Heating and Airconditioning Wholesalers, Inc., Columbus 12, Ohio. Held at the Governor Clinton Hotel, November 26-29, Levine's talk was part of an open meeting on November 29 devoted to the cooling market.

Levine contended that the largest single influence upon the American home life in the second half of the 20th Century will be airconditioning. Within the next ten years, he indicated some homes would have controlled barometric pressure built in the home that will help keep the family in the best psychological state of well-being throughout the year. And, he cited air filtration in home cooling as essential to health and cleanliness within the home, particularly when smog and dirt problems are considered.

The health benefits of airconditioning, Levine continued, are most important and should be emphasized in cooling merchandising. No group is more health conscious than the American public, he said, and health and well-being have been found to be deciding factors in their purchase of airconditioning. Recent actions by the Internal Revenue Bureau to allow tax deductions on cooling equipment for patients suffering heart trouble, asthma and other diseases, Levine pointed out, are typical of the significant role that medical authorities now give to home air-conditioning.

Further, the Austin, Texas Airconditioned Village experiment has proved that healthier standards prevail in air-conditioned homes, while recent statements by doctors following last summer's heat waves, in which a 40% increase in the death rate was noted in New York City, indicate the recognition among medical people that airconditioning helps individuals stay healthier, more comfortable and, at the same time, more productive.

Opening days of the convention were devoted to trustees meetings and business meetings of the wholesaler and associate members. On Monday, November 28, most of the day was devoted to a conference booth program, during which some 25 manufacturers occupied spaces in the Governor's Room of the hotel. Representatives were present in each booth to pass along to the wholesalers information on equipment, merchandising and related subjects.

Maryland OHA has annual Meeting in Baltimore

REPORTS of the association's activities during 1955 were presented at the annual meeting of the Oil Heat Association of Maryland, Inc., in Baltimore, December 13.

Members of the Havre de Grace, Eastern Shore and Southern Maryland Divisions were especially invited to attend the meeting.

N. Y. Oil Heating Association has three speakers at Dinner

ARTHUR SOULE, chairman of the Better Heat with Oil Council, spoke on "Promotion of oil Heat by major oil Companies," at the December meeting of the New York Oil Heating Association, Inc., in New York City.

Also on the program were Patrick Caputo and Robert M. Barr, president and executive secretary, respectively, of the Oil Heat Institute of Long Island.

STOP! Shop for Bigger Profit in 1956

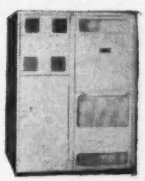
It's Right Here —on This Page!

It's MONCRIEF

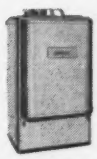
— for Better, More Profitable Business — with the Greater Selection of Better, More Versatile, Attractive

- Year 'Round Air Conditioning
- Summer Cooling • Winter Air Conditioning Units
- Furnaces
- Unit Heaters
- Incinerators

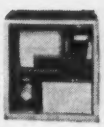
Counterflow Year 'Round Air Conditioner. Burns Gas or Oil. Air or Water Cooled 2 Ton. Air Cooled 3 Ton.



5 Ton Year 'Round Air Conditioner. Burns Gas or Oil. Water Cooled.

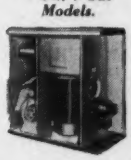


Basement-Utility Year 'Round Air Conditioner. Burns Gas or Oil. 2 or 3 Ton, Air or Water Cooled.



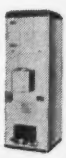
Above, Cooling Coil of Air Cooled Summer Air Conditioner. Right, Condensing Unit. 2 or 3 Ton.

Water Cooled Add-On Summer Air Conditioner 2, 3, 5 Ton.



Basement Winter Air Conditioner. 7 Oil, 9 Gas Models.

Utility Unit. 3 Oil, 5 Gas Models.



Counterflow Unit. 3 Oil, 5 Gas Models.

Gravity Furnace. 2 Oil, 3 Gas Models.

Gas Fired Unit Heater 5 Models.

Oil Fired Horizontal Furnace. 4 Models.

Gas Fired Horizontal Furnace. 4 Models: 80,000, 100,000, 120,000 and 140,000 B.T.U. Input.

Incinerator. With or without Gas Burner.

Shop — compare — and you'll choose Moncrief for better profit in 1956!

Ahead with the More Complete Line for 1956

You can select the right Moncrief unit, built better, competitively priced and backed by Moncrief's over 60 years of manufacturing experience — from: Gas, Oil or Coal Furnaces—Basement, Utility, Counterflow and Horizontal Units—2, 3 and 5 ton Year 'Round Units—2, 3 and 5 ton add-on Cooling Units—Gas Fired Unit Heaters—Gas and Oil Conversion Burners—and Incinerators.

Ahead with Year 'Round Air Conditioning for 1956

For virtually any operating condition — you can specify a Moncrief Year 'Round Air Conditioner that burns either oil or gas and supplies both heated and cooled air from the same compact cabinet.

The new 5 Ton Moncrief Year 'Round Unit combines a water cooled, hermetic refrigerant system with either 175,000 or 140,000 B.T.U. input Gas or oil fired heating.

The Moncrief Counterflow Year 'Round Unit is especially engineered and manufactured for basementless, "perimeter" applications.

Ahead with Horizontal Gas Fired Furnaces for 1956

You will realize an entirely new concept of heating installations with Moncrief's new line of Gas Fired Horizontal Furnaces — 140,000, 120,000, 100,000 and 80,000 B.T.U. input — because they can be installed in previously impossible, small spaces.

Ahead for Greater Profit in 1956

You gain from Moncrief's greater selection and from Moncrief's "years ahead" design. You need less inventory, because most Moncrief units are approved for either gas or oil, and provide more capacities with less models. You gain also, because for over 60 years Moncrief has been known as "the furnace man's furnace" — with units that install quicker and easier, and afford extra years of service-free operation!

You will profit, moreover, because Moncrief units are manufactured, and sold, in greater quantity — so that the price is competitively right!

For bigger profit in 1956 — all year 'round — call your Moncrief Wholesaler, today!

MONCRIEF . . . Built Right! Priced Right! Approved for Gas or Oil!

THE HENRY FURNACE COMPANY Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

MONCRIEF . . . Competitively Priced for Today's Competitive Selling!

Famous Name and

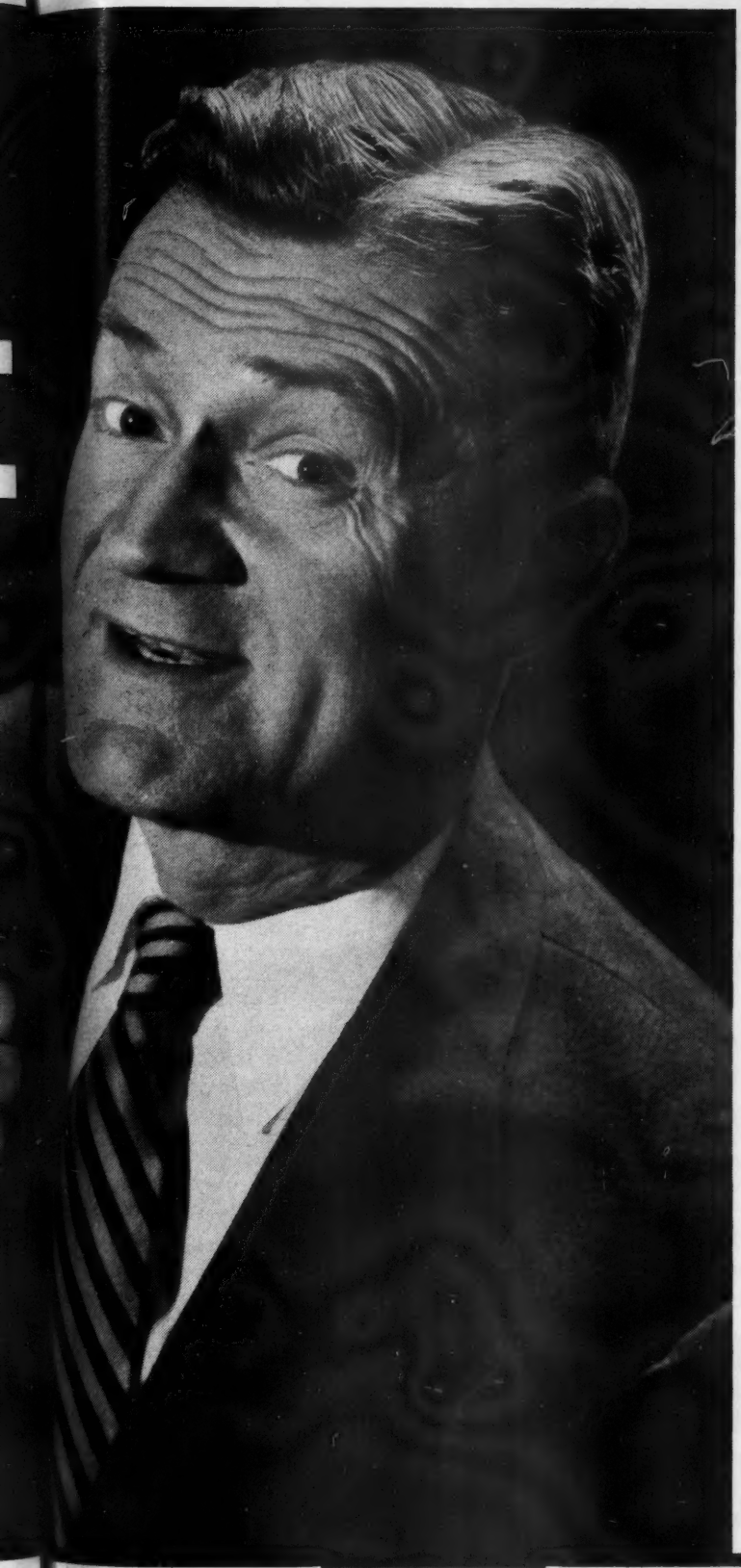
FULL LINE

simplify your selling!

Why don't you join American-Standard's dealer profit program?

You can find the right type and size of unit in a jiffy. American-Standard's color-coded speed-indexed catalog is the industry's easiest to use. See, also, American-Standard's powerful new line-up of advertising-merchandising aids.

Copyright 1955 by American Radiator & Standard Sanitary Corporation



Warm air heating and air conditioning jobs are easier to plan . . . simpler to sell . . . when you specialize in the installation of *American-Standard* equipment.

Famous name! Synonymous with fine quality and fair prices. You get your order signed faster . . . have more time for more sales.

The American-Standard line is *complete* . . . offers exactly the right unit for every type of installation.

WARM AIR HEATING: Basement, utility, counterflow and horizontal models . . . full range of capacities.

SUMMER AIR CONDITIONING: Add-on units, residential and commercial blower-equipped units, and new outdoor *air-cooled* units with vertical, counterflow, horizontal air-flow or blower-equipped evaporators.

YEAR'ROUND AIR CONDITIONING: Eleven heating-cooling size combinations equipped for gas or oil-fired heating. Electrostatic air filtering units for every size and type of application. Just pick up your phone—your nearby American-Standard Air Conditioning Distributor is ready to give you fast service. Call him right now for full details about—

Indoor Weather-Conditioning TRADEMARK

UNITS BY AMERICAN-STANDARD

EVERYTHING *for air conditioned comfort*

Warm Air Heating
Summer Cooling
Year 'round Units
Electrostatic Air Filters

American-Standard
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AIR CONDITIONING DIVISION

ELYRIA, OHIO

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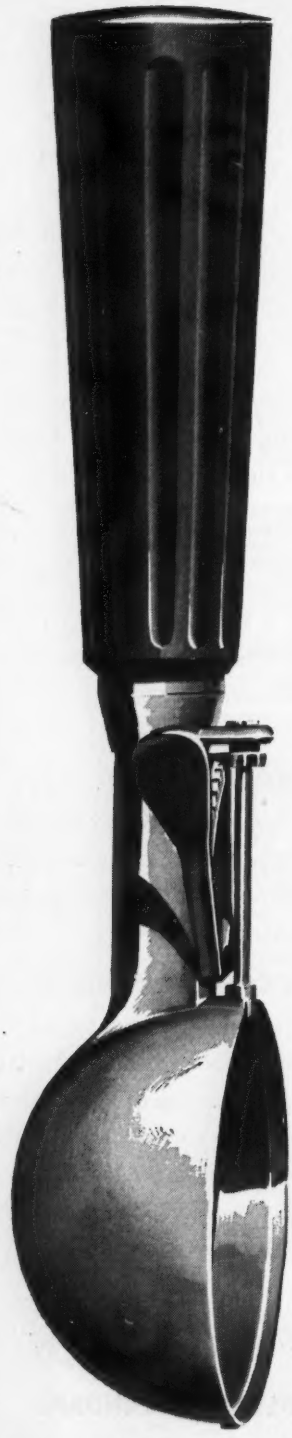


Rheem has scooped all the others for '56! . . .

with something mighty cool in air conditioning

Watch for complete details next month

You can rely on Rheem

New England oil Men to hold annual Get-together, Jan. 19

THE ANNUAL winter get-together of the Independent Oil Men's Association, Boston, takes place January 19 at the Hotel Statler, Boston, in the form of the IOMA annual meeting banquet. Principal speaker is to be Herbert Willetts, director and marketing vice-president, Socony Mobil Oil Co.

Tickets for the dinner should be obtained from IOMA headquarters, 25 Huntington Ave., Boston.

Hudson County Fuel Dealers elect Officers at Meeting

OFFICERS for the coming year were elected at a recent meeting of the Hudson County (N. J.) Fuel Dealers Association. William O'Shea was named president; Jack Silberberg became vice-president; Ben Niese, Jr., secretary and Jerry Lionetti, treasurer.

Indiana Sheet Metal Group releases convention Program

A TENTATIVE PROGRAM for its 38th annual convention has been released by the Sheet Metal and Warm Air Heating Contractors' Assn. of Indiana, Inc., Terre Haute, Ind. Scheduled for February 2 and 3 at the Hotel Severin, Indianapolis, the meeting opens with a greeting from Chris Sorensen, convention chairman, proceeds to the election of officers and then hears an address by Prof. W. T. Miller, Purdue University on "Review and Previews of Heating and Airconditioning."

On the second day, C. W. Nessell, chairman of the NWAHACA Field Investigation Committee, reports on heating systems encountered in this work. Other program activities on February 3 schedule a contractor business panel and a technical information panel.

Social activities include special programs for the ladies, a banquet for members and a stag party, sponsored by the Indiana Fur-Mets.

Refresher course Students have Dinner with Long Island group

A COMMENCEMENT DINNER was held for men attending the first servicemen's refresher course at the Long Island Agricultural & Technical Institute by the Long Island Oil Heat Institute, December 14.

The course was sponsored by the association and almost 200 men registered for the course. So popular was the school that more courses are now being planned on all phases of dealer and service education.

The January meeting of the group will be combined with a two-evening sales seminar to be conducted by Ray Horan, merchandising manager, General Controls. This meeting is tentatively set for January 9 and 10 and will be held on the campus of the school located in Farmingdale.

Chicago Burner Association names Officers for new Year

AT THE ANNUAL MEETING of the Chicago Oil Burner Association at the Illinois Athletic Club, E. W. Jones, Iron Fireman Manufacturing Co., announced that John Neustadt, Neustadt Fuel & Supply Co., would succeed him as president of the organization.

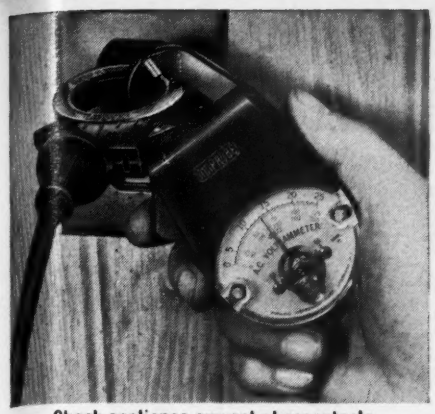
Other officers are Regis Plante, Braun Bros. Oil Co., vice-president, and J. J. Zang, Herndon Heating & Cooling Corp., treasurer. Board members elected were G. W. Bennett, Contractors Heat Service Co.; R. L. Lassar, Enterprise Heat & Power Co.; and O. K. Moore, Automatic Oil Heating Co. C. F. MacDonald, Willey & MacDonald, had been elected previously to the Board. Lee R. Wolfe is secretary of the group.

Past Presidents are honored at Massachusetts OHA Meeting

PAST PRESIDENTS of the Massachusetts Oil Heating Association were honored at a dinner at the Hampton Court Hotel, Boston, December 13.

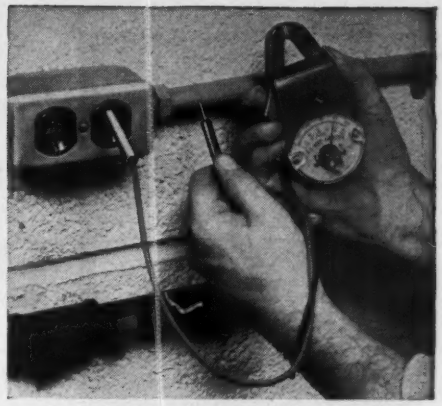
Instead of a guest speaker the meeting was turned over to the former presidents. Those honored were Allan Fisk, Joseph Walsh, Orodon Hobbs, J. Henry Brody, John Lordan, Clarence Warner, Ray Eldridge, Don Edwards, Gus Dwelley, Les Godwin, Frank Hawkins, Max Seltzer, Joseph Gould, Fred Heaney, Al Coop, Jim DeWolfe, Mahlon Walker, Tom Scott, and Lawrence Williams.

(*Please turn to page* 176)

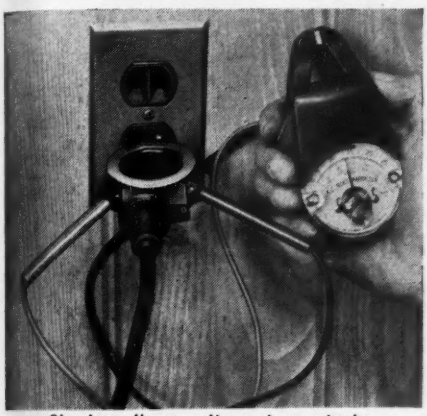


Check appliance current at receptacle

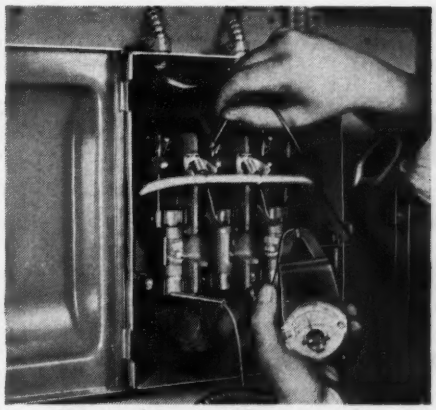
Trouble-shoot relays quickly



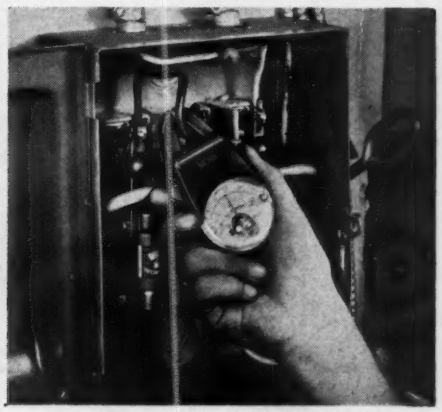
Instantly determine hot leg of receptacle



Check appliance voltage at receptacle



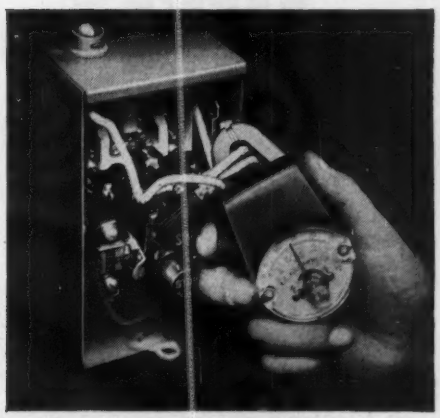
Instantly determine if fuses are good



Know if the load is balanced

Know if windings are grounded

Check capacity of motor capacitors



Expand low-amp reading by doubling lead

Eliminate Guesswork!

One pocket tester measures voltage and current, with instrument accuracy, without shutting down equipment!

And the cost is only $19.85 (just a few dollars more than an ordinary voltage tester), so *every* man can carry one!

Pick the Amprobe Junior that fits the job. 7 models from 0-10 amps to 0-100 amps; choice of either 0-125/250 volts A-C or 0-150/600 volts A-C range. For your higher current applications, multi-range Amprobes available for 300, 600 or 1200 amperes.

See the full Amprobe line of snap-around volt-ammeters at your jobber's today.

Send for valuable Amprobe service bulletins showing many more ways to save time and money on the job with an Amprobe. Mail coupon now to: PYRAMID INSTRUMENT CORP., LYNBROOK, N. Y. (Export Div.: 458 Broadway, N. Y. 14), world's largest manufacturers of snap-around volt-ammeters.

Amprobe Jr.* *snap-around volt-amp tester* **$19.85**

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Send for these free Amprobe service bulletins

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Please send me the Amprobe service bulletins checked below:

- ☐ UL wiring standards, room conditioners
- ☐ Trouble-shooting electric motors
- ☐ How to cut costs and land more jobs
- ☐ Portable test instruments

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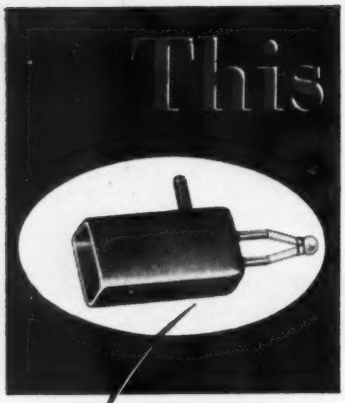


This revolutionary flame detector makes the **primary** difference...

in the **GENERAL CONTROLS**

PERFXRAY

The Modern Burner-Mounted Oil Burner Primary

✓ Burner and control assembled as one unit for easy installation.

✓ Factory-wired and factory tested to reduce field service problems.

✓ Compact design saves space—allows more location flexibility.

✓ Fail-safe, rugged construction assures service free operating dependability.

Factory-mounted right in the burner blast tube for instant response

Yes, this minute flame detector unit mounted right in the flame chamber of the burner is the "difference" in the PerfXray. It is metal-clad and hermetically sealed—impervious to shock, vibration, soot accumulation and age. It responds to heat—not light. It reacts quickly to flame loss, yet is not erratic with normal variations. It checks itself on every cycle... for fail-safe operation.

As a complete burner-mounted unit, it is application engineered for perfect performance, factory-wired and tested to eliminate field errors. Dealers, of course, appreciate the single-package inventory advantage—not to mention its installation and service ease. No complex circuitry to contend with... no service problems from improperly located draft controls. And its compact design makes it ideal for close-quarter locations—particularly with complete service accessibility from the front.

When you take the primary step toward perfect oil burner performance—put your best foot forward. Pick PerfXray. Contact the nearest of General Controls' 40 factory branch offices for further information.

1930 25 YEARS 1955 — 1955 SILVER JUBILEE YEAR

GENERAL CONTROLS

MANUFACTURERS OF AUTOMATIC CONTROLS FOR HOME, INDUSTRY AND THE MILITARY

GENERAL CONTROLS • PERFEX CONTROLS

40 FACTORY BRANCH OFFICES SERVING THE UNITED STATES AND CANADA

FIVE PLANTS: IRON MOUNTAIN, MICHIGAN • GLENDALE, CALIFORNIA • BURBANK, CALIFORNIA • SKOKIE, ILLINOIS • GUELPH, CANADA

Oilheating's third best Year

Total Installations of 834,345 in 1955 are 13% higher than previous Year

OILHEATING registered its third largest year in 1955 when installations rose 13% to 834,345 and total burners in use climbed above the 8 million mark. Sales activity last year increased somewhat so that oilheating jobs put in represented a drop of only 6% from the all-time peak attained in 1947 when installations amounted to 888,083; this, of course, was the "catch-up" year after World War II.

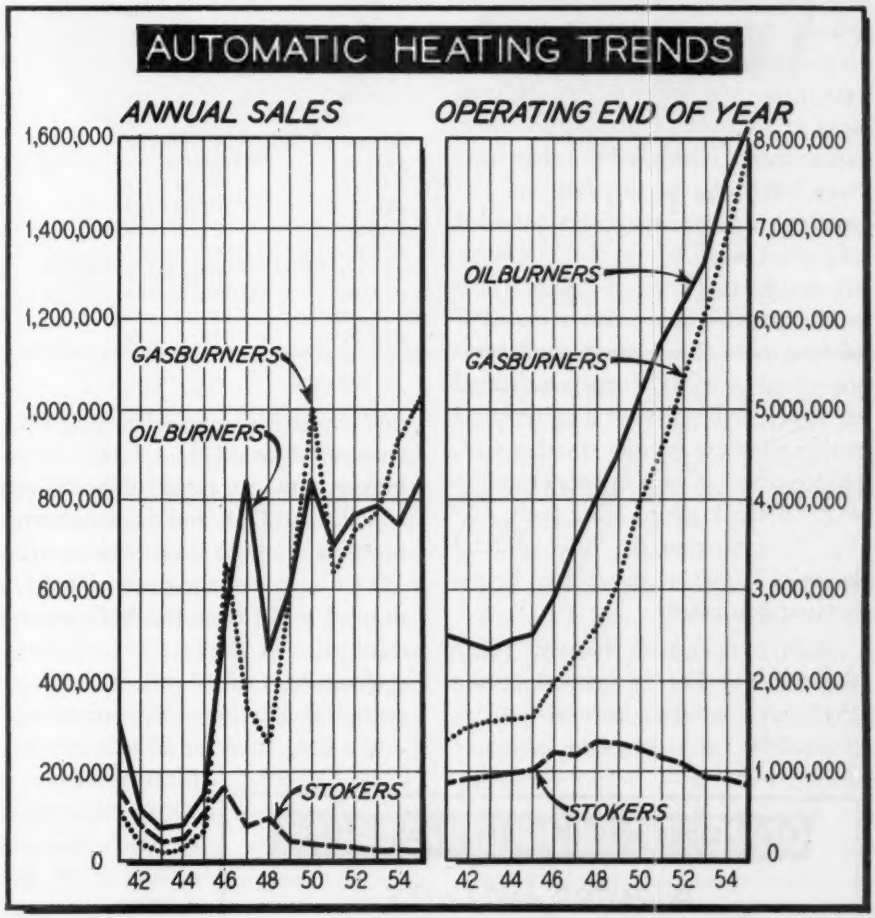
Estimates for oilheating sales last year are preliminary, based on an indicated total of 867,725 factory shipments of burners and units; this is the third best year for manufacturers also. The difference between factory shipments of 867,725 and estimated installations of 834,345 is caused by the number of burners exported. Field adjustments of dealer stocks also were taken into account in arriving at the estimate. Final figures in the coming April issue, when more complete reports are available on both shipments and exports, will explain this more fully.

TABLE 1

Automatic Heating Trends

	ANNUAL SALES		% of Total	
	Total	Stoker	Oil-burners	Gas-burners
1941	652,591	28.0%	51.1%	20.9%
1942	225,041	35.1	44.2	20.6
1943	64,465	27.5	51.9	20.6
1944	102,028	31.0	48.9	20.1
1945	321,693	37.1	45.2	17.7
1946	1,336,316	13.5	37.0	49.5
1947	1,271,679	4.9	69.8	25.3
1948	803,222	9.5	56.7	33.8
1949	1,281,706	2.3	47.9	49.7
1950	1,210,725	1.1	45.6	53.3
1951	1,346,794	1.4	50.1	48.5
1952	1,544,160	1.2	50.4	48.4
1953	1,636,812	0.8	50.3	48.9
1954*	1,695,849	0.6	43.6	55.8
1955	1,975,620	0.5	42.3	57.2
	OPERATING AT END OF YEAR			
1941	4,514,627	17.8%	53.2%	29.0%
1942	4,615,785	19.0	51.7	29.3
1943	4,633,755	19.3	51.3	29.4
1944	4,700,130	19.7	50.9	29.4
1945	4,979,775	20.7	50.5	28.8
1946	6,009,347	19.3	47.0	33.7
1947	7,133,709	16.6	51.2	32.2
1948	7,752,498	16.0	51.3	32.7
1949	8,845,695	14.0	50.8	35.2
1950	10,434,971	11.3	49.6	39.1
1951	11,506,701	9.8	49.6	40.6
1952	12,757,700	8.5	49.7	41.8
1953	14,085,664	7.1	49.8	43.1
1954*	15,451,353	5.9	49.1	45.0
1955	16,971,306	4.8	48.4	46.8

*Revised



At the end of the year automatic heating systems in use numbered 16,971,306, an increase of just under 10% when compared with the 15,451,353 operating at the end of 1954. Oilburners represented 48.4% of the December 31, 1955, total, or 8,208,424 units; gas burners were 46.8% of the total, or 7,953,713, and stokers dropped to 4.8%, or 809,713 units. The following table shows this breakdown by per cent for the past three years, along with the number of heating systems in operation at the end of 1955 using oil, gas and stoker coal:

Operating 12/31/55		% 1955	% 1954*	% 1953
8,208,424	Oilburners	48.4	49.1	49.7
7,953,169	Gas burners	46.8	45.0	43.2
809,713	Stokers	4.8	5.9	7.1
16,971,306				

*Revised

During 1955 oilburner sales advanced 13%; gas burners increased 19% and stokers dropped an estimated 10%, following a downward trend that began in 1949.

In 1955 total automatic heating sales were at an all-time high, rising to 1,975,620 or slightly better than 16% above the previous record reached in 1954 when there were 1,695,849 oilburners, gas burners and coal stokers installed. Installations made in 1955 were: Oilburners, 834,345; Gas burners, 1,131,730 and coal stokers, 9,545.

TABLE 2 reports total sales of oilburners and units installed in 1955 and previous years, the number in use at the end of each year and the factory and retail value of sales. Oilburners operating on December 31, 1955, increased by a little more than 8% to 8,208,424, compared with the 7,581,973 in operation a year earlier. Based on the estimated installations during 1955 of 834,345, a net gain in users added 626,451 to the total operating, representing 75% of total sales, arrived at by deducting oilburner replacements and losses to other fuels from total sales in this fashion: Deducting 131,287 oilburners installed to replace worn out or obsolete burners, results in a total of 702,518 new customers; this figure represents 84% of total sales. Then, further subtracting a total of 76,067 burners estimated to have been removed and replaced with equipment burning another fuel, reduces the net gain in users to 626,451. Of the losses to other fuels, 68,480 or approximately 90% of total losses of 76,067, were replaced by gas heating equipment.

Both retail and factory prices showed a decline in general during 1955, with separate burners—as distinguished from complete boiler or furnace-burner units—declining 1.6% from $384 to $378 at retail; boiler-burner units at retail dropped only a dollar to $748 and furnace-burner units were sold to homeowners during 1955 for an average price of $603, a drop of 6.3% from the $643 average sales price in 1954.

TABLE 2

Total Domestic Burners and Units

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,012,870
150,510	$55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,517,055
492,593	211,448,000	79,007,100	1946	2,821,044
888,083	418,178,500	156,759,900	1947	3,650,514
455,245	237,385,500	84,114,100	1948	3,975,773
614,712	262,843,600	102,660,700	1949	4,490,535
846,815	371,585,000	140,582,300	1950	5,172,134
675,060	330,610,900	123,630,800	1951	5,704,556
777,604	364,500,000	145,487,000	1952	6,345,876
823,365	428,600,000	204,289,000	1953	7,017,609
738,048	429,132,000	185,826,000	1954*	7,581,973
834,345	476,561,000	213,524,000	1955	8,208,424

*Revised

Average factory prices were reported as $93 for a separate burner, a 6% drop from the $99 dealers paid for these burners in 1954; boiler-burner units cost the dealers 1.7% less, $363 as compared to $369, and furnace-burner units dropped slightly from $307 in 1954 to $305 average in 1955.

Both retail and factory prices reported here are weighted national averages based upon total sales.

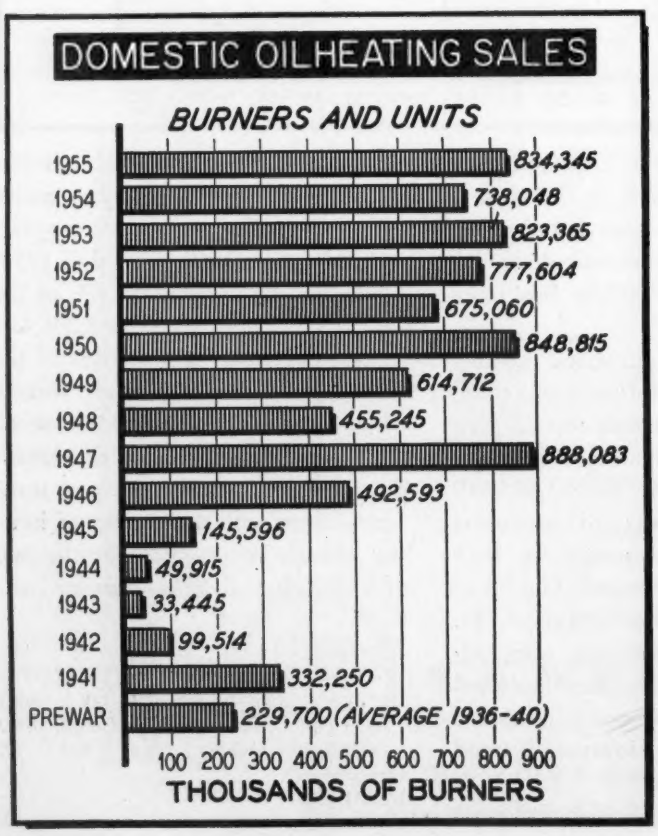
There were some slight adjustments in the types of oilburners sold in 1955; high pressure gun burners are still the most popular type, retaining their traditional leadership; low pressure burners are second, followed by the vertical rotary or wall flame type, with vaporizing burners last. High pressure types accounted for an indicated 83.8% of total sales, 699,136 burners and this was an advance from 79.8% for this type of burner in 1954. Low pressure burners remained virtually unchanged percentagewise, 10.1% of total sales in 1955 and 10.2% the year before, but because of the larger number of installations the indicated total of low pressure gun burners installed jumped to 83,314. On the other hand, vertical rotaries declined to 5.3% of total sales, 44,240 burners, and vaporizing burners sagged to 0.8% of total, 6,675 burners. These vaporizers it should be pointed out are exclusive of such burners used in floor furnaces and space heaters.

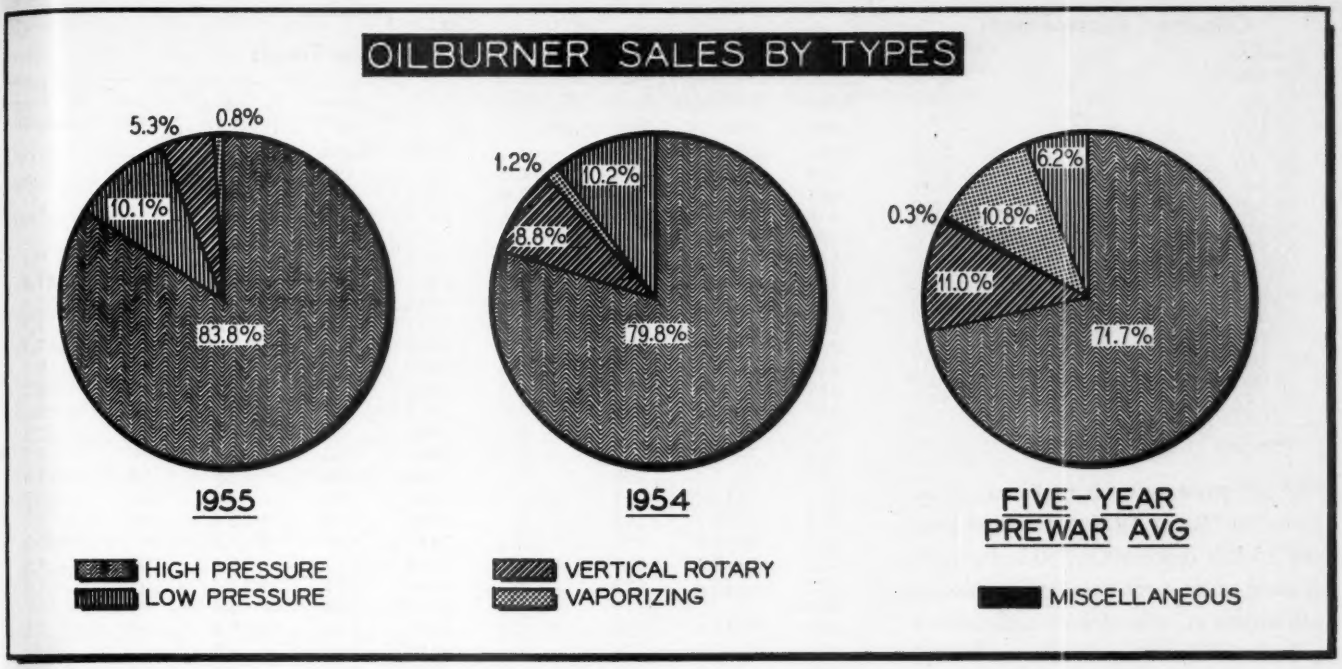
In the tabulation that follows is a breakdown of oilburner sales by types, showing the percentage for each type for the past two years, a prewar average in per cent and an estimated 1955 total (based on Census reports):

1955			*1954*	*Prewar*
No.	*%*		*%*	*Avg. %*
699,136	83.8	High pres.	79.8	71.7
84,314	10.1	Low pres.	10.2	6.2
44,220	5.3	Vert. Rot.	8.8	11.0
6,675	.8	Vaporizing	1.2	10.8

*Includes 0.3% miscellaneous.

The following tabulation shows retail prices paid for a high pressure





gun burner installation during 1955 as $347, compared with $352 in 1954; retail prices for low pressure gun burners averaged $392 in 1955, down from the $398 reported the year before and installations of vertical rotary burners in 1955 at retail averaged $461, compared with $464 charged in 1954.

On the wholesale side, average prices in 1955 compared with factory prices in 1954 as follows: Dealers paid $93 on the average for high pressure burners purchased from manufacturers; they had paid $99 for the same equipment in 1954. They paid $148 for low pressure gun burners at wholesale last year and $146 in 1954. Vertical rotary burners were sold by manufacturers to dealers for an average price of $152 in 1955, just a dollar less than wholesale prices averaged in 1954.

The retail and wholesale prices compared in the following table are weighted national averages.

RETAIL 1955	RETAIL 1954		WHOLESALE 1955	WHOLESALE 1954
$347	$352	High pres.	$ 93	$ 99
392	398	Low pres.	148	146
461	464	Vert. Rot.	152	151

Oilburners installed in 1955 as straight conversions—changing a heating system from another fuel to oilfiring—remained about the same as 1954. In 1955 40.9% of total installations were conversions and represented other fuels replaced by oilburners; in 1954 such installations amounted to a flat 41% of total sales. Burners installed in new homes advanced slightly to 43.3% of total jobs and represented a new high for sales to this category of user. Replacements of old oilburners also held up nicely, amounting to 15.8% of installations.

Included in the 834,345 burners installed in 1955 were 11,681 oilburners, 1.4% of total sales, put in to replace gas burners; these, combined with the 39.5% of sales used to replace hand or stoker fired coal heating systems, total the 40.9% of burner sales used last year to replace other fuels with oil. Thus, in 1955 the following oilburners were installed: 361,271 in new homes; 329,566 to replace coal heating; 131,827 installed in place of old oilburners and the 11,681 mentioned above to replace gas heaters.

Total oilburners installed to replace other fuels total 341,247, 40.9% of sales, while losses to other fuels amount to 76,067 in 1955, 1% of total burners operating.

In 1955 oilheating dealers installed straight conversions in 45% of the oilburner replacement jobs they sold, compared with 46.7% in 1954 and 55.7% in 1953; boiler-burners units were used as replacements in 25% of

TABLE 3
Domestic Conversion Oilburners

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	$79,400,000	$24,648,000	1930	648,500
104,000	50,310,000	16,640,000	1931	747,300
86,200	36,911,000	12,068,000	1932	827,320
80,800	31,263,000	10,423,000	1933	902,680
98,990	33,116,000	11,681,000	1934	991,980
136,825	43,373,500	13,408,900	1935	1,115,125
197,430	59,229,000	18,558,400	1936	1,281,305
184,920	54,181,600	15,903,100	1937	1,446,295
153,850	40,462,600	12,154,200	1938	1,559,675
200,020	48,004,800	15,601,600	1939	1,719,940
238,845	55,645,900	18,152,200	1940	1,933,605
237,965	59,490,200	19,275,200	1941	2,113,160
71,658	16,552,700	6,090,900	1942	2,073,260
21,363	1,885,800	1,837,200	1943	2,060,465
37,885	10,607,800	4,184,600	1944	2,072,445
119,680	34,292,200	11,249,900	1945	2,173,910
408,861	151,258,100	48,625,800	1946	2,397,554
669,615	262,489,000	83,701,900	1947	3,020,741
312,170	131,735,700	36,523,900	1948	3,208,365
440,748	155,143,300	47,160,000	1949	3,568,024
608,013	214,020,600	65,665,400	1950	4,057,412
477,267	189,475,000	55,363,000	1951	4,433,834
542,768	203,538,000	64,047,000	1952	4,881,476
382,042	140,591,000	42,789,000	1953	5,193,160
250,936	96,360,000	24,843,000	1954*	5,385,044
248,635	93,980,000	23,123,000	1955	5,571,726

*Revised

Oilburner Replacements

Number	Year	%
40,936	1940	15.2
56,315	1941	16.9
33,170	1942	33.3
13,910	1943	41.6
38,280	1944	76.7
29,847	1945	20.5
36,540	1946	8.0
58,613	1947	6.6
90,750	1948	19.9
58,200	1949	10.2
96,960	1950	11.5
91,808	1951	13.6
103,283	1952	13.3
104,567*	1953	12.7
118,080	1954*	16.0
131,287	1955	15.8

*Revised

the oilburner systems replaced, down from 29.7% in 1954 but better than the 18.9% reported in 1953; furnace-burner units were installed to replace oilburners in 30% of such replacement jobs in 1955, an increase from 23.6% in 1954 and a few points better than the 25.4% reported the year before.

These percentages are weighted national averages. In the table are listed dealer reports on the types of oilburner replacements they made in 1955.

	Conv. Burners	Boiler Units	Furnace Units
New England	48%	36%	16%
Mid-Atlantic	64	23	13
South	36	17	47
Midwest	26	29	45
Pacific	18	2	80
Total U. S.	45	25	30

Losses to other fuels, mentioned previously in breaking down oilburner sales to arrive at a net gain in users, continued at a fairly constant rate in 1955, totaling 76,067 and amounting to 1% of total burners in use. In 1954 the total oilburners replaced by other fuels were 55,604 and this amounted to 0.8% of burners operating.

A breakdown of losses to other fuels by sections of the country appears in the table at the right.

Oilburner sales of 834,345 in 1955 were divided: Conversion burners (oilburners installed separately), 29.8%; boiler-burner units, 24.3% and furnace-burner units, 45.9%.

These estimates were computed with allowances for the overlap in reports of burner shipments to Census.

TABLE 4

Conversion Burner Price Trends

	RETAIL					FACTORY			
	Average	% change prev. yr.	Aver. Min.	% change prev. yr.		Average	% change prev. yr.	Aver. Min.	% change prev. yr.
1929	$692	..	$554	..	1929	$240	..	..	..
1930	629	— 9.1	516	— 6.8	1930	195	—18.7	..	..
1931	495	—21.3	413	—19.9	1931	160	—18.0	..	..
1932	438	—11.5	371	—10.1	1932	140	—12.5	..	..
1933	395	— 9.8	341	— 8.1	1933	129	— 7.8	$109	..
1934	341	—13.6	310	— 9.0	1934	118	— 8.5	99	— 9.1
1935	317	— 7.0	275	—11.2	1935	98	—16.9	88	—11.1
1936	300	— 5.3	266	— 3.2	1936	94	— 4.1	85	— 3.4
1937	293	— 2.3	255	— 2.6	1937	86	— 8.5	82	— 3.5
1938	263	—10.2	236	— 7.4	1938	79	— 8.1	76	— 7.3
1939	240	— 8.7	218	— 7.6	1939	78	— 1.3	69	— 9.2
1940	233	— 2.9	210	— 3.7	1940	76	— 2.6	63	— 8.7
1941	250	+ 7.2	226	+ 7.6	1941	81	+ 6.9	65	+ 3.2
1942	267	+ 6.8	245	+ 8.4	1942	85	+ 4.9	73	+12.3
1943	276	+ 3.3	247	+ 0.9	1943	86	+ 1.2	76	+ 4.1
1944	280	+ 1.4	258	+ 4.7	1944	98	+13.9	78	+ 2.6
1945	313	+11.8	292	+13.2	1945	94	— 4.1	84	+ 7.7
1946	370	+18.2	294	+ 0.7	1946	119	+26.6	90	+ 7.1
1947	392	+ 6.0	353	+20.1	1947	125	+ 5.0	107	+18.9
1948	422	+ 7.6	349	— 1.1	1948	117	— 6.4	101	— 5.6
1949	352	—16.6	329	— 5.7	1949	107	—14.5	97	— 4.0
1950	352	..	319	— 3.0	1950	108	+ 0.9	97	..
1951	397	+11.3	330	+ 3.4	1951	116	+ 7.4	102	+ 5.2
1952	375	— 5.5	326	— 1.4	1952	118	+ 1.7	102	..
1953	368	— 1.9	320	— 1.8	1953	112	— 5.1	100	— 0.2
1954	384	+ 4.0	319	..	1954	99	—11.6	95	— 5.0
1955	378	— 1.5	312	— 2.1	1955	93	— 6.1	95	..

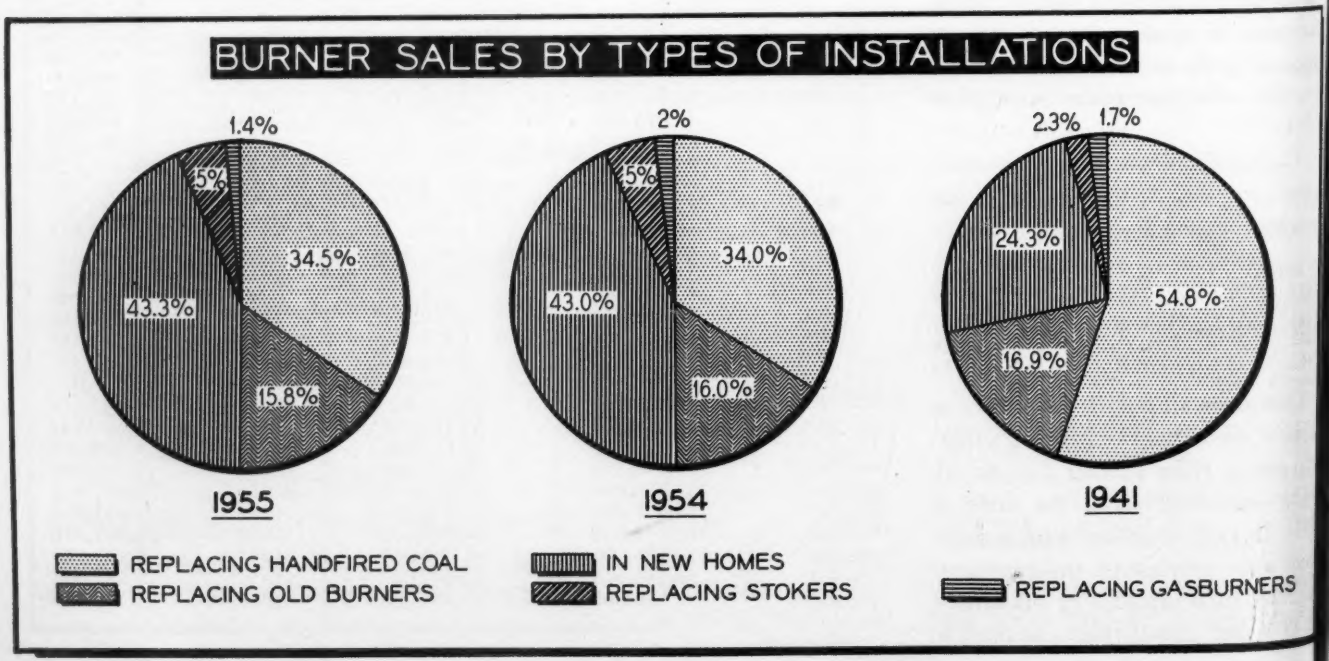
Fueloil Customers lost

	Gas	Electricity	Coal
New England	9,693	329	371
Metro. New York	2,806	28	27
Other Mid-Atl.	12,504	109	416
South Atlantic	2,844	23	114
Midwest	40,462	131	1,153
Pac. Northwest	171	4,839	47
ALL SECTIONS	68,480	5,459	2,128

Losses to all Fuels

1955	76,067 or 1.0%	of total operating
1954	55,604 or 0.8%	of total operating
1953	47,065 or 0.7%	of total operating
1952	32,734 or 0.6%	of total operating

So, once again this year more weight was given to the information supplied



by our reporting dealers who told us what equipment they had installed. Conversion or separate burners totaled 248,635, boiler-burner units totaled 202,746 and there were 382,964 installations made during 1955 using complete furnace-burner units.

In terms of units operating, at the end of 1955 there were 5,571,726 conversion burners in use, an increase over the 5,385,044 burners of this kind operating at the end of 1954. Conversion burners operating at the end of 1955 were equivalent to 69% of all burners; at the end of 1954 they accounted for 74%.

Conversion burners, boilers and furnace-burner units, as percentages of total sales, for the last two years and a prewar average, are shown in the table below.

Some variation was noted in the oilburner firing rates reported for 1955 installations, in that increases were shown in the below 1 gph and the 1 to 1.35 gph categories. The balance of the firing rates followed pretty much the same pattern as in recent years.

Total boiler-burner units installed during 1955 amounted to 202,746, equal to 24.3% of total sales, while during 1954 the same equipment amounted to 184,512, which represented 25% of sales. Net gain in boiler-burner units operating raised the number in use at the end of 1955 to 925,831, representing approximately 10% of all burners in use. TABLE 5 contains a summary of annual sales of boiler-burner units, retail and factory values of annual sales and number operating at the end of each year.

What Kind of Equipment

1955* %	1954* %		Prewar %
29.8	34.0	Conversion	80.5
24.3	25.0	Boiler Units	9.1
45.9	41.0	Furnace Units	10.4

*Calculated on revised basis, taking into account overlap in Census reports of burner shipments. If a plant manufactures an oilburner and combines it with a furnace or boiler of its own manufacture, data for this equipment are reported under boiler or furnace-boiler units. If a plant manufactures a furnace, but combines it with a burner purchased from another manufacturer, data for this furnace are reported under warm air furnaces; data for the oilburner already have been reported by the burner manufacturer as a conversion oilburner. Estimates for these two years allow greater weight for reports from dealers on the type of oilburning equipment they sell and install.

TABLE 5
Boiler-Burner Units

Sales	Retail Value	Factory Value	Year	No. in Use (End of Year)
3,000	.....	.....	1932	3,800
7,800	.....	.....	1933	11,600
9,300	.....	.....	1934	20,890
10,510	$9,511,600	.....	1935	31,400
15,025	9,781,300	.....	1936	46,250
14,430	8,557,000	$3,795,100	1937	60,240
14,220	7,877,900	3,711,400	1938	73,930
19,220	9,744,500	4,286,100	1939	92,540
26,955	13,322,700	5,005,300	1940	118,560
39,990	21,874,500	9,717,600	1941	155,720
9,313	5,289,800	2,877,700	1942	163,040
6,637	1,705,600	2,090,600	1943	164,240
6,440	3,909,100	2,002,800	1944	167,040
9,027	5,984,900	2,491,500	1945	175,165
45,130	34,765,900	18,088,100	1946	219,131
63,054	52,650,000	23,014,700	1947	277,771
42,785	40,260,700	16,600,600	1948	318,417
55,324	43,872,000	20,027,300	1949	368,286
82,141	61,687,900	26,038,700	1950	434,401
58,731	46,573,700	22,688,300	1951	480,722
69,207	53,635,000	26,783,000	1952	537,799
116,094	82,427,000	45,393,000	1953	623,513
184,512	138,200,000	68,085,000	1954*	773,604
202,746	151,654,000	73,597,000	1955	925,831

*Revised

Prior to 1953 this table represented only the boiler-burner units reported to the Census Bureau by oilburner manufacturers. It did not include units assembled either by boiler manufacturers in their plants or field-assembled by dealers. In 1953 it included those assembled by boiler manufacturers but not by dealers. In 1954 it includes all three, divided as follows: By oilburner manufacturers, 72,989; by boiler manufacturers, 70,758; by dealers in the field, 58,999.

Then TABLE 6 lists retail and factory average and average minimum prices for factory-assembled boiler-burner units, indicating that retail prices remained virtually unchanged. Average prices for these units were $748 in 1955, compared with an average of $749 charged in 1954; average minimums remained the same at $704.

Factory prices registered only slight changes: The average factory price dropped 1.6% from $369 in 1954 to $363 in 1955 and average minimum factory prices advanced 1% from $322 in 1954 to $325 last year.

A breakdown of boiler sizes in 1955 shows: Boilers up to 300 sq. ft. of net steam, 34%; boilers from 301 to 500 sq. ft., 41%; boilers from 501 to 650 sq. ft., 15% and boilers from 651 to 800 sq. ft., 10%. In 1954 these sizes were reported: Up to 300 sq. ft., 36%; 301 to 500 sq. ft., 36%; 501 to 650 sq. ft., 18% and 651 to 800 sq. ft., 10%.

Preliminary estimates indicate there were 20% more heating boilers sold in 1955 than the previous year. Cast-iron boilers in 1955 totaled 250,126, an increase over the 208,438 sold in 1954 and steel boilers registered an increase also, up to 124,874 from the 104,062 such units sold in 1954.

During 1955 about 65% of all boil-

TABLE 6
Prices of Factory-Assembled Boiler-Burner Units

Average	% change prev. yr.		Average Min.	% change prev. yr.
		RETAIL		
$905	..	1935	$723	..
651	—28.0	1936	566	—21.7
593	— 8.9	1937	516	— 8.8
554	— 6.5	1938	482	— 6.6
507	— 8.3	1939	441	— 8.5
495	— 2.4	1940	365	—17.2
547	+11.5	1941	378	+ 3.6
568	+ 3.8	1942	473	+25.1
533	— 6.2	1943	361	—23.7
607	+13.9	1944	450	+24.6
663	+ 9.2	1945	539	+19.8
770	+16.1	1946	589	+ 9.3
835	+ 8.4	1947	691	+17.3
941	+12.7	1948	710	+ 2.7
793	—15.7	1949	682	— 4.0
751	— 5.3	1950	661	— 3.1
793	+ 5.6	1951	686	+ 3.8
775	— 2.3	1952	699	+ 1.9
710	— 8.4	1953	703	— 0.6
749	+ 5.5	1954	704	..
748	..	1955	704	..
		FACTORY		
$263	..	1937	$246	..
261	— 0.7	1938	244	— 0.8
223	—14.5	1939	208	—14.7
215	— 3.6	1940	183	—12.0
243	+13.0	1941	201	+ 9.9
309	+27.1	1942	229	+13.4
315	+ 2.0	1943	231	+ 1.0
311	— 1.3	1944	216	— 6.5
276	—11.2	1945	233	+ 7.9
351	+27.2	1946	267	+14.6
365	+ 4.0	1947	310	+16.1
388	+ 6.3	1948	345	+11.3
362	— 6.7	1949	342	— 0.9
317	—12.4	1950	311	— 9.1
393	+24.0	1951	336	+ 8.0
387	— 1.5	1952	324	— 3.8
391	+ 1.0	1953	322	— 0.1
369	— 5.6	1954	322	..
363	— 1.6	1955	325	+ 1.0

TABLE 7
Heating Boiler Sales

	CAST IRON				STEEL		
	Total Output	*No. for oil*	*% for oil*		*Total Output*	*No. for oil*	*% for oil*
1935	160,105	29,310	18.3	1935	14,415	14,181	98.1
1936	186,560	41,922	22.5	1936	19,242	18,622	96.8
1937	169,707	58,462	34.2	1937	16,569	15,321	92.7
1938	135,282	54,139	40.0	1938	19,098	17,218	90.3
1939	146,919	61,070	41.6	1939	23,658	21,857	92.4
1940	168,839	77,764	46.1	1940	24,580	23,206	94.5
1941	178,076	80,176	45.0	1941	25,666	24,173	94.2
1942	111,875	10,765	9.6	1942	13,000	7,238	55.7
1943	81,500	8,852	10.9	1943	3,550	1,230	34.7
1944	75,760	19,140	25.3	1944	3,310	2,168	65.5
1945	66,740	20,088	30.1	1945	16,008	10,979	68.6
1946	161,667	46,548	28.8	1946	34,820	33,777	97.0
1947	233,905	73,279	31.3	1947	105,714	94,123	89.0
1948	180,345	61,781	34.3	1948	92,718	82,716	89.2
1949	144,275	50,495	35.0	1949	84,876	74,520	87.8
1950	194,509	76,406	39.3	1950	166,836	156,325	93.7
1951	159,007	68,214	42.9	1951	92,892	86,950	93.6
1952	187,596	89,670	47.8	1952	107,755	102,367	95.0
1953	208,644	99,706	47.8	1953	113,814	106,985	94.0
1954	208,438	104,219	50.0	1954	104,062	97,818	94.0
1955	250,126	125,063	50.0	1955	124,874	117,832	94.0

ers were used in oilheating systems, made up of 125,063 cast-iron boilers and 117,382 steel boilers, so that just about 50% of all cast-iron boilers were installed for oilfiring and 94% of steel boilers were sold for use in oilheating homes. Both these percentages are identical with the oilfired ratio reported for cast-iron and steel boilers in 1954.

Installations of complete furnace-burner units in 1955 accounted for 45.9% of all oilheating sales, an increase from 41% of sales recorded in 1954. There were 382,964 furnace-burner units installed in 1955, compared with 302,600 such units the previous year. The number in use at the end of 1955 advanced to 1,710,867, amounting to 20% of all burners operating and representing an increase from the 1,423,325 in use at the end of 1954.

TABLE 8 reproduces data for furnace-burner unit sales during 1955.

Both retail and factory averages and average minimum prices were lower during 1955, with the average installed price for a factory-assembled forced-air unit reported at $603, a 6.2% decrease from the $643 price reported for 1954. Then the average minimum prices were reported at 3.8% lower, $585 in 1955 against $608 the previous year.

Prices paid to manufacturers by dealers for the same unit averaged $305 during 1955, just 6/10's of 1% below the average price of $307 reported the year before; average minimum prices paid to factories dropped a bit more. They were 4.8% down, $280 reported as the average minimum in 1955, $294 in 1954.

Price trends for forced-air units are shown in TABLE 9.

Shipments of warm air furnaces during 1955 are estimated to be 1,442,991, forced air and gravity types, a 27% increase over the 1,131,882 shipped during 1954, with the forced air units representing 94% of total

TABLE 8
Furnace-Burner Units

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,175	$2,457,400	.....	1935	5,600
7,620	5,044,400	.....	1936	13,120
11,390	6,526,500	$2,540,000	1937	24,010
11,290	6,243,400	2,427,300	1938	34,140
16,900	8,771,100	3,464,500	1939	49,850
36,410	19,115,300	7,646,100	1940	82,960
55,295	32,181,700	12,939,000	1941	133,180
18,543	8,029,100	5,099,300	1942	149,990
5,445	1,691,900	1,503,200	1943	150,750
5,590	3,471,400	1,464,600	1944	152,780
16,889	8,968,100	4,104,000	1945	167,980
38,602	25,429,000	12,293,200	1946	204,359
155,414	103,039,500	50,043,300	1947	352,002
100,290	65,389,100	30,989,600	1948	447,277
118,640	63,828,300	35,473,400	1949	554,225
156,661	95,876,500	48,878,200	1950	680,321
139,062	94,562,200	45,579,000	1951	790,000
165,629	107,327,000	54,657,000	1952	926,601
325,229	205,582,000	116,107,000	1953	1,191,936
302,600	194,572,000	92,898,000	1954*	1,423,325
382,964	230,927,000	116,804,000	1955	1,710,867

*Revised

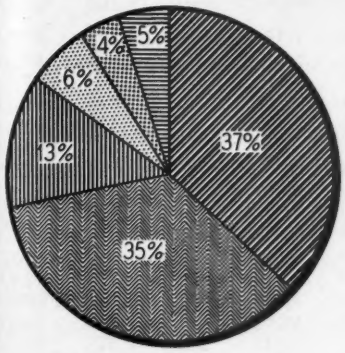
Prior to 1953 this table represented only the furnace-burner units reported to the Census Bureau by oilburner manufacturers. It did not include units assembled either by furnace manufacturers in their plants or field-assembled by dealers. In 1953 it included those assembled by furnace manufacturers but not by dealers. In 1954 it includes all three, divided as follows: By oilburner manufacturers, 233,225; by furnace manufacturers, 131,357; by dealers in the field, 18,382.

TABLE 9
Price Trends of Factory-Assembled Forced-Air Units

RETAIL				
Average	*% change prev. yr. Aver-age*		*Min.*	*% change prev. yr. Aver. Min.*
$274	..	1935	$642	—10.2
662	—14.4	1936	576	—10.2
573	—13.4	1937	499	—13.3
553	— 3.5	1938	481	— 3.4
519	— 6.2	1939	402	—16.4
525	+ 1.2	1940	360	—10.4
582	+10.9	1941	402	+11.7
611	+ 4.9	1942	413	+ 2.7
613	+ 0.3	1943	418	+ 1.2
621	+ 1.3	1944	434	+ 3.8
531	—14.5	1945	479	+10.4
659	+24.1	1946	526	+ 9.8
663	+ 0.6	1947	610	+15.9
652	— 1.7	1948	623	+21.3
583	—10.6	1949	538	—13.7
612	+ 5.0	1950	610	+13.4
680	+11.1	1951	624	+ 2.3
648	— 4.7	1952	639	+ 2.4
638	— 1.6	1953	625	— 2.2
643	+ 0.8	1954	608	— 2.7
603	— 6.2	1955	585	— 3.8

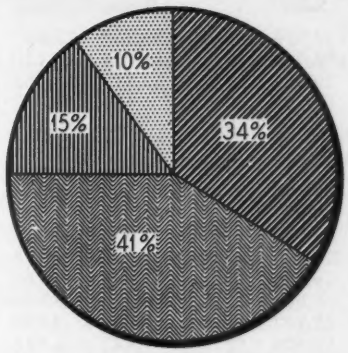
FACTORY				
$223	..	1937	$210	..
215	— 3.6	1938	204	— 2.8
205	— 4.7	1939	198	— 2.9
210	+ 2.4	1940	196	— 2.0
234	+11.4	1941	201	+ 2.5
275	+17.5	1942	236	+17.4
276	+ 0.4	1943	241	+ 2.1
262	— 5.1	1944	217	— 9.9
243	— 7.3	1945	239	+10.1
318	+30.9	1946	265	+10.9
322	+ 1.3	1947	297	+12.1
309	— 4.0	1948	304	+ 2.3
299	— 3.2	1949	297	— 2.3
312	+ 4.3	1950	306	+ 3.0
328	+ 5.1	1951	316	+ 3.3
330	+ 0.6	1952	311	— 1.6
357	+ 8.2	1953	300	— 3.5
307	—14.0	1954	294	— 2.0
305	— 0.6	1955	280	— 4.8

SIZES OF 1955 OILFIRED INSTALLATIONS



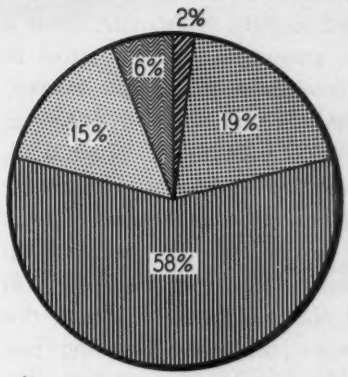
FIRING RATES

37% LESS THAN 1.0 GPH
35% 1.0 TO 1.35 GPH
13% 1.36 TO 1.65 GPH
6% 1.66 TO 2.0 GPH
4% 2.01 TO 3.0 GPH
5% 3.01 GPH AND LARGER



BOILER SIZES

34% LESS THAN 300 SQ FT
41% 301 TO 500 SQ FT
15% 501 TO 650 SQ FT
10% FROM 651 TO 800 SQ FT



FURNACE SIZES

2% LESS THAN 50,000 BTU
19% 50 TO 75,000 BTU
58% 76 TO 100,000 BTU
15% 101 TO 125,000 BTU
6% 126,000 BTU AND LARGER

TABLE 10

Warm Air Furnace Shipments

1954*	FORCED AIR	1955
13,748	Coal	16,635
413,277	Oil	495,932
597,017	Gas	847,764
1,024,042		1,360,331
	GRAVITY	
37,285	Coal	37,657
11,938	Oil	5,730
58,617	Gas	39,273
107,840		82,660
1,131,882	Grand Total	1,442,991

*Revised

shipments, the breakdown showing that 1,360,331 forced air units were dispatched from factories and 82,660 gravity types.

It should be pointed out that the difference between the number of furnaces shipped and the number of furnaces actually installed represents a number of units that go into warehouses or are shipped to burner manufacturers for assembly with their oilfiring equipment. All eventually show up in installations, of course, but there is enough lag between the time the furnaces are shipped from factories until they are taken from dealer stocks and installed to indicate that there is a rather sizable inventory being held pending installation.

Total oilfired furnaces shipped during 1955 were 501,662 units, representing 35% of the total and divided 495,932 forced-air units and 5,730 gravity models. By way of contrast, in 1954 oilfired furnaces represented 37% of total shipments, divided 413,277 forced-air units and 11,938 gravity units for a total of 425,215 oilfired furnaces. Percentagewise, forced-air oilfired furnaces increased 20% and gravity oilfired furnace shipments decreased 52% during 1955.

Furnace shipment details shown in TABLE 10 reveal that coal forced-air units rose 21% in 1955; oil units were 20% up and gas fired furnaces were 42% above 1954 shipments; coal gravity furnaces were up 1%, while oil and gas gravity units were down 52% and 33%, respectively.

Commercial heating oilburners in 1955 showed a modest decline of 6.6%, 35,308 such burners being installed as compared with 37,091 in 1954. Preliminary estimates indicate a net gain of 31,777 in the number of these commercial burners used for oilheating, so that at the end of 1955 that would mean a total of 616,941 burners operating, a 5.4% increase over the 585,164 units being used at the end of 1954. Comparative data for commercial heating oilburners appear in TABLE 11.

Dividing total 1955 sales of 35,308 into burners which use distillate fuel-oils in capacities above 6 gph and those which use residual oil shows that 20,832 of them were of the type that used distillate fuel and this represented 59% of the year's total. The remaining 41%, or 14,476 units are residual oilburners.

Preliminary estimates of the sale of domestic and commercial coal stokers during 1955, shown in TABLE 12, indicate an over-all drop of 10%. The statistics include Class I units, up to 60 lbs. of coal per hour, and Class II units, 60 to 100 lbs. per hour, divided into those using bituminous and anthracite coal.

Total for both types in 1955 is estimated to be 9,545, down from the 10,606 sold in 1954. Class I stokers totaled 8,394 units, down from the 9,327

TABLE 11

Commercial Oilheating

Sales		*No. Operating (End of year)*
14,990	1935	176,240
18,435	1936	192,830
19,380	1937	210,275
13,955	1938	222,880
16,445	1939	237,680
20,710	1940	256,320
34,750	1941	287,595
55,360	1942	293,120
44,470	1943	285,045
30,705	1944	286,680
30,515	1945	288,812
40,498	1946	325,310
48,780	1947	369,210
28,433	1948	393,550
25,220	1949	414,310
34,737	1950	445,573
40,565	1951	482,088
36,417	1952	514,863
41,021	1953	551,782
37,091	1954*	585,164
35,308	1955	616,941

*Revised

shipped in 1954. Class I stoker shipments in 1955 were made up of 4,897 bituminous units and 3,497 that were designed to burn anthracitte. Class II stokers amounted to 1,151 units in 1955, down from 1,279 units reported the previous year. Class II stokers in 1955 were made up of 912 bituminous and 239 anthracite units.

The number of coal stokers in use at the end of 1955 dropped to 809,713, down 12% from the 922,060 in use at the end of 1954. Again this total was calculated by deducting from total sales worn or obsolete units that were replaced by other stokers, plus the 41,717 estimated to have been removed to be replaced by oilburners and the 79,221 supplanted by gas burners.

Preliminary estimates of gas heating installations furnished by GAS HEAT magazine point to a record year in 1955 of 1,131,730 sales. (Table 13.)

Estimates in the table are based on statistics compiled by the Gas Appliance Manufacturers Association and GAS HEAT magazine. Information prior to 1950 contains records of factory shipments and does not allow for replacements, losses or stock changes. Since 1950 GAS HEAT magazine has estimated actual sales and installations, as shown in the table.

The 1,131,730 gas heating installations estimated for 1955 represent a 19% increase over the 947,195 installed in 1954, with the 1955 total consisting of 204,550 conversion burners, 80,590 boiler-burner units and 846,590 gas fired furnace-burner units. During 1954 the division was: 223,550 conversion burners, 71,115 boiler-burner units and 652,530 furnace-burner units, so that gas conversion burner installations in 1955 dropped 8%, boiler-burner units were up 13% and furnace-burner units recorded a 30% increase.

At the end of 1955 there were estimated to be 7,953,169 gas heating systems in operation, a 9% increase over the 6,947,500 in use at the end of 1954 and representing at the end of 1955 better than 46% of all automatic heating installations.

All in all oilheating enjoyed a good year in 1955, racking up the third best year in its history and with all indications that 1956 will be even better. At first glance it might seem to be a cause for alarm that competition from gas intensified to the point where it not only outsold oil in total installations, but that it made some of its strongest gains in traditionally oilheating territory.

This can well be a disguised blessing, though, in that active and cooperative programs to promote oilheating are now well under way in a number of markets; some of the markets that have been conducting such activities with good results for a number of years are increasing their appropriations and broadening the scope of their programs. In other marketing areas where such promotion had been weak or non-existent, local groups have closed ranks and formulated promotion for oilheating that will bear down heavily on appeals to the consumer emphasizing oilheating's advantages. The most heartening sign, of course, is the very measurable participation of major oil companies in these local programs, sparked by the favorable outlook for oilheating market in practically every market surveyed by Oilheating Market Reports, which the majors established for just such a purpose.

Prospects for 1956 are better than good, particularly when gauged from the standpoint of the typical oilheating dealer, who has indicated he is well aware of the need for more positive selling, the advisability of being able to offer the homeowner a complete comfort package — oilburning equipment, the fueloil it uses and the heating plant service it may need — and the absolute necessity to bear down more heavily on sales to new homes as a means of maintaining a continuing growth and on sales of replacement oilburners to assure continuing customer satisfaction.

TABLE 12

Domestic and Commercial Stokers

Total Sales		CLASS 1 Bitum.	CLASS 1 Anth.	CLASS 1 Total	CLASS 2 Bitum.	CLASS 2 Anth.	CLASS 2 Total	End Year In Use
144,758	1940	123,167	12,837	136,004	7,784	970	8,754	637,695
182,956	1941	158,734	17,110	175,844	6,513	599	7,112	802,345
79,062	1942	62,753	11,562	75,315	4,391	356	4,747	877,455
17,765	1943	4,460	472	4,932	10,790	2,043	12,833	894,330
31,603	1944	1,714	450	2,164	27,196	2,243	29,439	925,435
119,279	1945	89,522	3,525	93,047	24,349	1,883	26,232	1,029,150
181,223	1946	164,304	7,044	171,348	8,967	908	9,875	1,160,755
61,596	1947	53,372	3,364	56,736	4,469	391	4,860	1,186,195
76,477	1948	61,355	9,504	70,859	4,857	761	5,618	1,238,225
29,994	1949	21,988	4,991	26,979	2,612	403	3,015	1,235,560
19,635	1950	13,102	4,191	17,293	1,855	487	2,342	1,175,537
19,174	1951	12,451	4,268	16,719	1,941	414	2,355	1,124,945
18,801	1952	8,572	8,068	16,640	1,618	543	2,161	1,079,524
13,257	1953	6,801	4,858	11,659	1,266	332	1,598	990,855
10,606	1954	5,441	3,886	9,327	1,013	266	1,279	922,060
9,545	1955	4,897	3,497	8,394	912	239	1,151	809,713

TABLE 13

Domestic Gas Burners

Annual Sales: Conversion	Boiler Units	Furnace Units	Total		No. in Use (End of Year)
21,687	10,201	56,666	88,554	1940	1,187,486
36,335	15,007	85,043	136,385	1941	1,310,222
6,087	10,966	29,412	46,465	1942	1,352,040
800	3,485	8,970	13,255	1943	1,363,970
3,180	5,217	12,113	20,510	1944	1,382,430
14,183	14,959	27,676	56,818	1945	1,433,570
400,000	32,500	230,000	662,500	1946	2,027,548
90,000	44,000	188,000	322,000	1947	2,297,000
48,500	30,000	193,000	271,500	1948	2,538,500
290,000	50,000	297,000	637,000	1949	3,119,600
344,275	70,455	576,270	991,000	1950	4,087,300
170,700	62,900	418,890	652,560	1951	4,677,200
234,240	60,825	452,690	747,755	1952	5,332,300
200,335	82,045	517,810	800,190	1953	6,077,200
223,550	71,115	652,530	947,195	1954*	6,947,500
204,550	80,590	846,590	1,131,730	1955	7,953,169

*Revised

Dealers are selling better

Survey of 1955 Characteristics and Activities discloses fresh Energy

This portion of our annual year-end analysis is concerned with the sales activities of oilheating dealers across the Nation. It does not attempt to explore their installation or service activities nor their engineering practices. Those functions get a special annual study in the May issue. Nor does it cover fuel-oil management statistics and distribution methods, for those now appear each year in the September number. The exclusive sales emphasis here is a logical follow-up to the preceding facts-and-figures presentation.

It should also be told just who are the "oilheating dealers" who cooperated in this survey . . . not by name of course. They are representative of any company that sold oilheating installations in 1955. That is their only qualifying factor, just as in the September issue's fueloil management analysis the only qualification for participation was that the company sold fueloil, regardless of what else it sold.

THE YEAR 1955 saw oilheating dealers stepping up to a stronger selling emphasis. This was particularly evident among those dealers who sold equipment for oil only as we'll see a little later.

The characteristic business makeup of the oilheating man is shown in TABLE 1. Keep in mind that every one of the companies participating is in the oilheating equipment business, represented by the first line of the table. This accounted for 23% of their total dollar volume, when combining all of the companies.

Another 12% of their total billing was in all other heating activity not associated with a specific oilfired installation, and 9% was in oilburner service. The largest single item in their aggregate sales was fueloil at 39%.

Thus we see that oilheating installations, oilburner service and fueloil accounted for 71% of the total billing of this oilburner dealer group.

It is interesting that among the companies selling fueloil they were only moderately in the general petroleum or gasoline business. Their gasoline sales income was just 15.4% of their fueloil dollar volume. In the annual study of fueloil management published in the September issue we noted that the gasoline sales of the typical companies were 16.2% of their fueloil sales.

The table shows the customary geographic variations. The combined oilfired equipment, burner service and fueloil reached the top in Metropolitan New York with 94% of total billing and was lowest in the Midwest with 52%.

Oilheating dealers in 1955 found the sale of gas heating to be less attractive than in some earlier years. While TABLE 2 indicates that 30% of the companies selling oilburners and units also sold gas heating the significant point is that they sold 26 oil jobs to 1 gas job, on a weighted average. In selling 834 thousand oil installations they put in 32 thousand for gas. Only 8% of the dealers sold as many gas jobs as they did oil and they averaged small in size.

TABLE 1

Most Oilheating Dealers sell complete Line

PERCENT OF TOTAL DOLLAR VOLUME

	Oil-heating Eqpt.	*Other Heating Eqpt.*	*Burner Service*	*Fuel-oil*	*Coal*	*Gaso-line*	*Other*
New England	20%	7%	11%	49%	5%	6%	2%
Met. New York	20	4	13	61	2	..	..
Other Mid-Atlantic	17	12	9	43	10	5	4
South Atlantic	18	4	13	34	3	17	11
Midwest	30	23	5	17	6	10	9
Pacific N. W.	30	9	14	35	5	..	7
All Sections	23	12	9	39	6	6	5
ALL SECTIONS							
Large Cities	26	10	10	41	5	3	5
Medium Cities	19	14	9	35	7	11	5
Small Cities	20	12	8	36	7	9	8

TABLE 2

Most Oilheating Dealers are Exclusive

	Percent selling Gasburners	*Their Ratio Oil to Gas Sales*
New England	26%	45 to 1
Met. New York	27	69 to 1
Other Mid-Atlantic	24	6 to 1
Midwest	57	2 to 1
Combined	30	26 to 1

One of the bright spots in this analysis is seen in TABLE 3. While only a few more dealers employed salesmen than in 1954, the two year improvement is quite marked. The table also that dealers of the size to employ salesmen are getting larger, taking a bigger percent of total sales within the industry. On the other hand the one-man dealership serves a very useful purpose in small markets and for that reason will be with us for many years.

TABLE 3

More Selling in 1955

SIGNIFICANT UPTURN IN ACTIVITY

	1955	*1954*	*1953*
Percent of dealers having salesmen	65%	63%	45%
Average number salesmen per dealer	2.3	2.2	2.2
Average burner sales per dealer having salesmen	154	131	121
Average sales per salesman	67	60	55
Average burner sales per dealer with no salesmen	20	31	21

The oilheating industry put approximately 359 thousand jobs into new homes in 1955 compared with 317 thousand in 1954. Gas may be hurting us in the new home market as we so often like to mention, but certainly our own record isn't bad. (TABLE 4).

When you recall that a third of new homes don't have conventional central heating plants, but rather floor furnaces, wall furnaces or space heaters, gas probably took a bigger share

of the remainder than we did, but not much bigger. The figures on this will be ready about March.

Translating the percentage figures in the rest of that table to actual numbers we find this distribution of new home sales:

	1954	1955
Factory to Builder	47,550	46,670
Fueloil distributor	85,590	111,290
Heating contractor	183,860	201,040

The year's growth was taken by the oil man and the heating contractor rather than by the direct factory segment. Of course it's important to note that we are thinking only of new home sales in this tally, and they are only 43% of our market. The old home and replacement sales would show quite different ratios.

Salesmen, as seen in TABLE 5, earned an average of $5,899 during the past year, a nice increase from $5,488 the year before. This is still on the low side because equipment prices are decidedly too low. (Look back to the special analysis of this point in the "Oilheating Trends" section on page 14.)

Straight commission men did the best again, as they had in 1954. It takes confidence to sell, and commission men are confident of their ability or they wouldn't take the jobs. A few companies, mostly selling higher priced lines, reported average incomes for their salesmen at above $8,000.

Dealers stepped up their advertising in 1955 to a noticeable degree. TABLE 6 brings out the details on this. Newspapers again led the parade of media with the telephone directories getting the second largest share of the aggregate cash spent. As the footnote under the table makes clear not nearly all of this money was spent to advertise oilburners and units, but in the last column of the table we have used the oilburner as the common denominator.

Advertising of oilheating equipment and service only, and having nothing to do with fueloil, other heating sales nor any other product sold by the dealers, grossed over eight million dollars in 1955.

TABLE 7 shows how dealers throughout the country have estimated the ratios of oil to gas installations of central heating in their markets in 1955. The fact that their impressions do not check with industry statistics in the aggregate in no way lessens the value of the table. Nearly all of them know that the gas industry sold more jobs during the year than did oilheating men, but they generally believe that it was in markets other than their own . . . often true of course.

TABLE 5

Commission Salesmen earn most

		Average Income
Percent paid Commissions	32	$6,976
Straight Salaries	29	5,425
Salary & Commission	39	5,649

ALL TYPES BY AREAS

	Earned 1955
New England	$5,494
Metropolitan New York	6,757
Other Mid-Atlantic	5,317
South Atlantic	6,125
Midwest	5,938
Pacific Northwest	6,169
1955 All Sections	5,899
1954 All Sections	5,488

It should be noted, too, that a third of gas heat installations are in areas where oilburners are rarely sold, such as the Central South and Southwest and the Mountain States near the oil fields. In the 26 primary oilheating states their ratios are more realistic. In any event, this table demonstrates the absence of any serious defeatism over competitive fuel conditions.

With the exception of the Midwest, gas costs more than oil almost everywhere—about 19% on a national basis but again eliminating the Southwestern sections where it is very cheap.

As in previous years we again see in TABLE 8 that a third of the installations were made in the first half of the year, another third in each of the last two quarters. The consistency of this performance makes it possible to pretty well forecast any year's total from the results of the first few months.

Looking ahead into 1946 the dealers expect a two percent increase in sales

TABLE 6

Dealers favored Newspapers

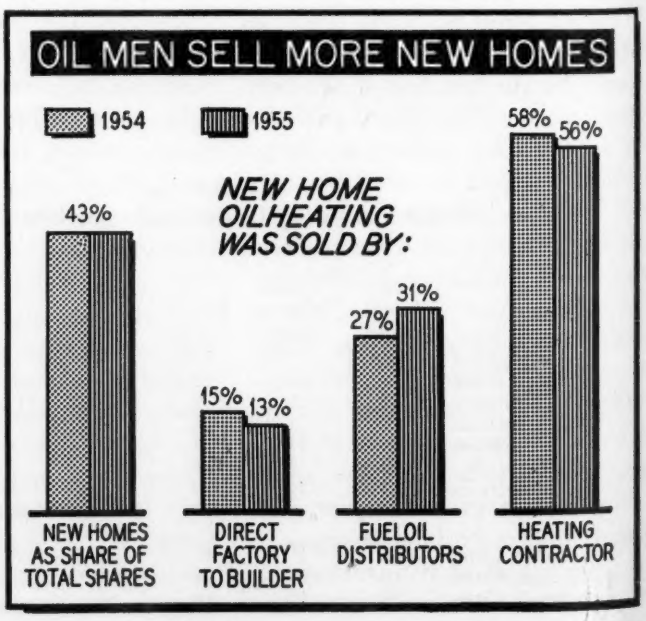
	Percent of Dealers using	Average spent per Dealer	Spent per Burner Installed
Newspapers	75%	$2,131	$19.73
Direct Mail	56	616	5.70
Telephone Directory	81	805	7.45
Radio	29	1,574	14.60
Television	9	1,353	12.50
Billboards	9	776	7.19
		Weighted Average	$30.22*

*Not all of this was used to advertise oilheating equipment, since many of these companies also sold fueloil and burner service. Only 32% of the group's composite dollar volume was derived from oilheating equipment sales and service, so you should recognize only about $9.67 per oilburner installed as being applicable advertising.

TABLE 4

New Home Oilheating Grows

	New Homes	SOLD BY		
	Percent of Total Installations	Factory to Builder	Fueloil Distributors	Heating Contractors
New England	48%	14%	43%	43%
Mid-Atlantic	32	20	38	42
South Atlantic	56	9	21	70
Midwest	45	7	13	80
Pacific Northwest	65	2	32	66
1955 All Sections	43	13	31	56
1954 All Sections	43	15	27	58



over 1955. Of course no individual dealer uses that small a figure in projecting his own sales, either up or down, but that's the way the whole lot of them stack up. Large city dealers expect to do better than smaller ones. As a total area the Pacific Northwest shows the lowest expectation. The reason is that they have the highest saturation in the industry in most of their large cities. Also, they expect the arrival of natural gas within the year.

The Mid-Atlantic region including Metropolitan New York expects just a stand-off with 1955. Gas is pushing them hard and with heavy promotion because their rates are high. Oil men are wise enough to have learned though, that higher fuel costs don't prove much in a prosperous era if the product is sold vigorously.

In view of the many new cooperative advertising programs for oilheating just getting organized in 1955 it is reasonable to expect that they will stimulate sales work in oilheating through the new year. And it isn't only the advertising that interests people toward oilheating . . . even more important is the needling it does of the whole industry to leap on its horse and gallop in the right direction. It should be a good year.

TABLE 7

DEALERS ESTIMATE

Ratio of Oil to Gas Installations 1955

	% Oil	% Gas	GAS COSTS More	Less
NEW ENGLAND				
Large Cities	86%	14%	36%	..
Medium Cities	83	17	31	..
Small Cities	97	3	28	..
All Cities	88	12	33	..
MID-ATLANTIC				
Metro. New York	71	29	31	..
Other Large Cities	43	57	22	..
Medium Cities	64	36	28	..
Small Cities	56	44	26	..
All Cities	61	39	28	..
SOUTH ATLANTIC	68	32	21	..
MIDWEST				
Large Cities	49	51	..	9%
Medium Cities	39	61	..	10
Small Cities	71	29	..	6
All Cities	52	48	..	9
PACIFIC N. W.	95	5	34	..
ALL SECTIONS	67*	33	19	..

*Be sure to read the text on this.

TABLE 8

Monthly Pattern is consistent

HOW 1955 SALES WERE APPORTIONED

	1955	Postwar Avg.	Prewar Avg.
January	6.4%	5.3%	4.3%
February	4.6	4.3	3.6
March	4.1	3.7	5.3
First Quarter	15.1	13.3	13.2
April	6.1	5.7	6.5
May	6.4	7.3	6.7
June	7.5	7.5	7.1
Second Quarter	20.0	20.5	20.3
FIRST HALF	35.1	33.8	33.5
July	8.6	8.3	8.7
August	11.5	12.5	11.5
September	13.2	13.6	17.2
Third Quarter	33.3	34.4	37.4
October	15.3	13.1	16.2
November	10.5	11.2	8.0
December	5.8	7.5	4.9
Fourth Quarter	31.6	31.8	30.1
SECOND HALF	64.9	66.2	66.5

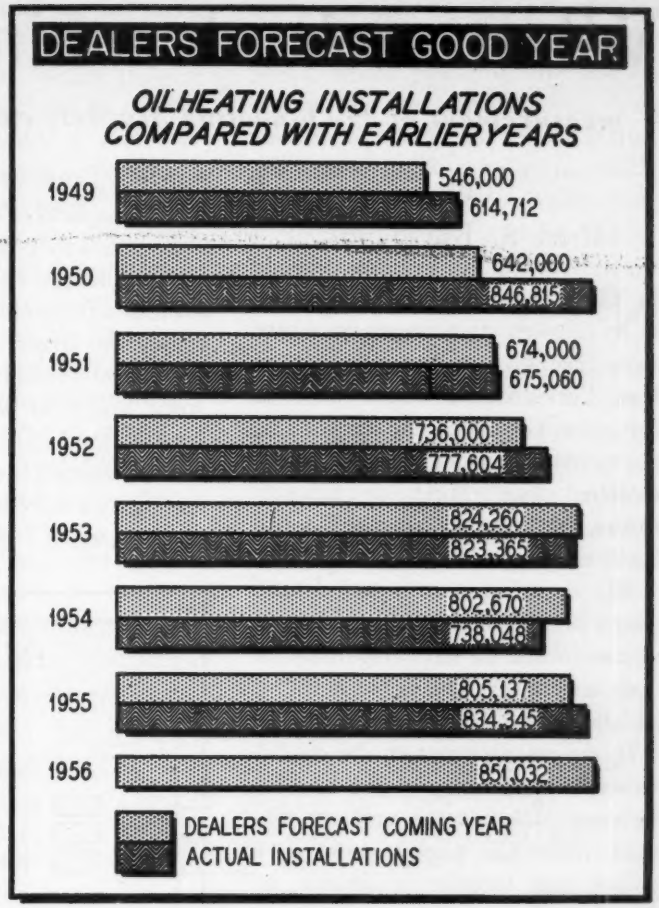


TABLE 9

Dealers expect a good 1956

WHAT THEY FORECAST COMPARED TO 1955

	Large Cities	Medium Cities	Small Cities	All Cities
New England	+ 2%	+ 5%	+10%	+ 5%
Metrop. New York	— 1	..	..	— 1
Other Mid-Atlantic	+10	+ 3	— 7	+ 1
South Atlantic	..	..	..	+10
Midwest	+ 7	— 4	+ 4	+ 4
Pacific Northwest	..	..	..	—11
All Sections	+ 4	+ 1	— 1	+ 2

API Report on fueloil Demand

FRANK M. PORTER, president, American Petroleum Institute, said in his annual report for 1955 that consumer demand for petroleum exceeded three billion bbls. Total output of distillate and residual fueloil exceeded one billion bbls. for the first time. Distillate output was 602 million bbls., up 60 million; residual output was 418 million bbls., up one million.

Fueloil Supply and Demand

(*Thousands of Barrels*)

	DISTILLATE		RESIDUAL	
Year	*Production*	*Domestic Demand*	*Production*	*Domestic Demand*
1955	602,100	576,800	417,800	550,700
1954	542,278	527,369	416,757	522,099
1953	528,111	488,075	449,979	560,474
1952	520,378	479,347	453,897	555,165
1951	475,801	447,278	469,377	564,397
1950	398,912	394,885	425,217	553,793
1949	340,825	329,278	424,909	496,021
1948	379,340	340,576	479,988	500,543
1947	312,173	298,273	447,795	513,510
1946	287,896	242,894	431,364	480,029
1945	249,224	226,084	469,492	523,423
1940	183,304	160,851	316,221	340,163
1935	100,235	86,028	259,826	280,695

What we're learning from OHMR

A measurement of 29 Oilheating Markets east of the Rockies

by

Fred S. Burroughs*

NEXT TIME you happen to walk through a passageway where many people travel—the arcade in New York's Grand Central Station, for example—notice the cadence of ten thousand or more footsteps. Short, medium, long, rapid or leisurely strides, the steps are random according to each individual.

But if you listen, a well-defined tempo or rhythm becomes evident in this multitude of steps, regardless of their assortment. This is the norm, or measurement of their average.

In the measurement of the characteristics of oilheating markets an assortment of conditions similarly prevails. Individual markets vary, even though close together in distance; individual operations within the industry differ; individual understandings of the industry itself vary, too, among different qualified observers.

Yet in the investigations of these markets, if the inquiry is adequate, a norm may also be established which accurately portrays the business pulse of that locality's industry.

Such, of course, is the technique employed in developing the oilheating market measurements discussed here—of gaining a sufficient cross-section of information so that this cadence, or norm, may be revealed.

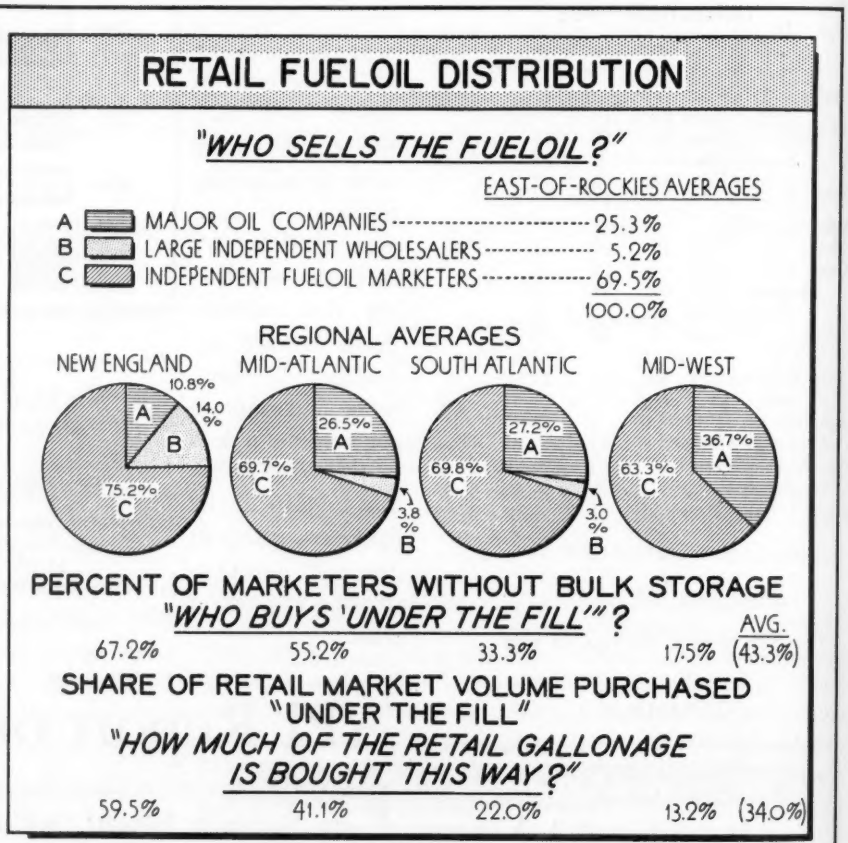
In the retail distribution of fueloil, for example, the dominant role of the independent marketer is substantiated.

The number of marketers who depend upon the bulk storage facilities of others varies, roughly, in inverse ratio to the extent of retail fueloil distribution by the major companies. In New England over two-thirds of the marketers purchase their product "under the fill," accounting for about 60% of the retail market volume; in the Mid-West only 17.5% of the marketers maintain no bulk storage facilities and load only 13.2% of the total retail volume at the racks of other companies.

From a standpoint of percentage of retail gallonage handled, a tendency toward concentration of distribution among the larger companies becomes even more evident in the South Atlantic and Mid-West areas. Nearly 80% of the retail fueloil is delivered in these regions by the companies operating 3 or more trucks, against their lesser shares, of 55% in New England, 58% in the Mid-Atlantic markets.

Definite differences between the eastern and Mid-western fueloil marketers are clearly revealed in their degree of involvement in the handling of gasoline. In the Eastern markets not many more than one out of five fueloil distributors also sell gasoline. In the Mid-West closer to half of all fueloil marketers are additionally in this business.

Of basic concern to the entire industry is another facet of diversifica-



Individual Markets

	A	B	C
NEW ENGLAND			
Portland, Me.	12%	2%	86%
Boston, Mass.	11	9	80
Fall River, Mass.	..	31	69
Springfield, Mass.	13	8	79
Providence, R. I.	17	9	74
Hartford, Conn.	12	25	63
MIDDLE ATLANTIC			
New York City	17	13	70
Westchester Co., N. Y.	18	..	82
Nassau & Suffolk Cos., N. Y.	17	..	83
Rochester, N. Y.	31	..	69
Buffalo, N. Y.	49	1	50
Poughkeepsie, N. Y.	10	..	90
Binghamton, N. Y.	33	..	67
State of New Jersey	16	3	81
Philadelphia, Pa.	33	11	66
Reading, Pa.	37	..	63
York, Pa.	17	..	83
Lancaster, Pa.	42	16	42
SOUTH ATLANTIC			
Baltimore, Md.	38	..	62
Washington, D. C.	20	3	77
Norfolk, Va.	24	..	76
Richmond, Va.	27	9	64
MID-WEST			
Indianapolis, Ind.	34	..	66
Fort Wayne, Ind.	37	..	63
Toledo, O.	79	..	21
St. Louis, Mo.	15	..	85
Milwaukee, Wis.	25	..	75
Duluth, Minn.	30	..	70

*Associate Director, Oilheating Market Reports, New York, N. Y.

tion—in this case an activity more intimately related to well-rounded oilheating operation—the sale of oilheating equipment. In New England more than 70% of the fueloil marketers sell oilburning equipment. In the Mid-West, this percentage drops down to only 23%. In the Mid-Atlantic and South Atlantic regions a bit better than half the fueloil distributors handle equipment—but nowhere does the integration of the industry in this vital aspect leave much room for complacency.

The use of audible-type fill signals for inside storage tanks, a concomitant of high-grade customer relations, is spotty, on a regional basis. The Eastern sections have quite widely promoted employment of these protective devices. In the Mid-West, only a little more than a third of all the customers' tanks are so equipped.

The acceptance of budget plans is quite uniform throughout all oilheating markets. The norm, of 16.6% of oilheating customers who equalize their yearly fueloil purchases through monthly payments, is low. Since such systems tend to level peak heating season bills, the cultivation of budget plan practices appears desirable for the oilheating industry—and especially in those markets where a competitive fuel price advantage exists—to reduce an unfavorable cost comparison that might be concentrated in the heavy heating use months.

Much food for reflection is contained in the answers to the question, "Who Sells the Oilburning Equipment?" In New England, the fueloil marketers account for the principal share of all installations; in the Mid-West, where plumbing and heating dealers and specialized service firms control the market, the reverse is true. An East-of-the-Rockies average indicating that only half of all oilburning equipment installed is being sold by fueloil companies is not comforting. A far stronger position would be enjoyed by the industry if, universally, it made its bid at this primary level in influencing the choice of the homeheating prospect toward oilheating. In this regard, encouragingly, the concern of the fueloil industry with the sale of equipment is increasing; in only three of the entire 29 markets studied (New York City, Washington, D. C., and Toledo, Ohio) has this activity lessened.

Oilburner service by fueloil compa-

RETAIL FUELOIL DELIVERIES

"WHAT SIZE DELIVERY FLEETS DO THE MARKETERS OPERATE?"

PERCENT OF COMPANIES OPERATING:	EAST-OF-ROCKIES AVERAGES
A MORE THAN FIVE DELIVERY TRUCKS	14.5%
B FROM 3 TO 5 DELIVERY TRUCKS	26.1%
C ONE OR TWO DELIVERY TRUCKS	59.4%
	100.0%

REGIONAL AVERAGES

	NEW ENGLAND	MID-ATLANTIC	SOUTH ATLANTIC	MID-WEST
A	6.6%	7.8%	23.5%	20.3%
B	25.2%	20.8%	32.5%	25.7%
C	68.2%	71.4%	44.0%	54.0%

"WHAT SHARE OF THE TOTAL RETAIL VOLUME IS HANDLED BY THESE MARKETERS?"

	EAST-OF-ROCKIES AVERAGES
D BY MARKETERS OPERATING MORE THAN 5 DELIVERY TRUCKS	38.9%
E BY MARKETERS WITH 3 TO 5 TRUCKS	28.9%
F BY MARKETERS WITH 1 OR 2 TRUCKS	32.2%
	100.0%

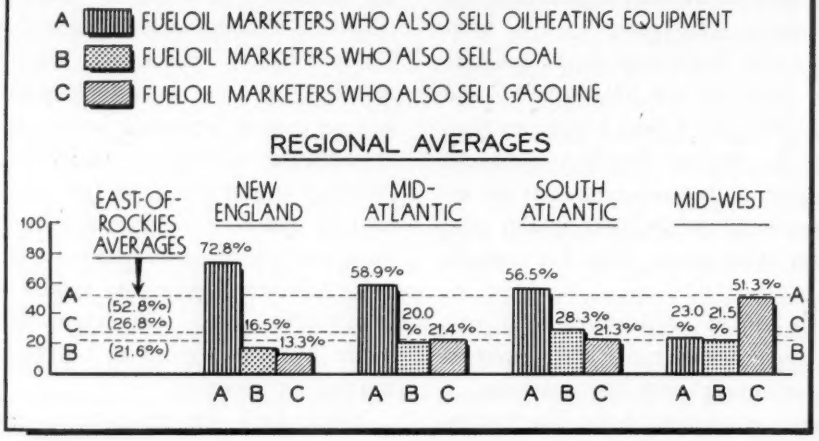
REGIONAL AVERAGES

	NEW ENGLAND	MID-ATLANTIC	SOUTH ATLANTIC	MID-WEST
D	25.0%	26.0%	50.2%	54.3%
E	30.0%	31.8%	28.8%	25.0%
F	45.0%	42.2%	21.0%	20.7%

Individual Markets

	A	B	C	D	E	F
NEW ENGLAND						
Portland, Me.	11%	13%	76%	33%	19%	48%
Boston, Mass.	5	14	81	25	25	50
Fall River, Mass.	10	62	28	38	38	24
Springfield, Mass.	2	16	82	8	30	62
Providence, R. I.	8	26	66	28	36	36
Hartford, Conn.	4	20	76	18	32	50
MIDDLE ATLANTIC						
New York City	9	11	80	32	20	48
Westchester Co., N. Y.	9	14	77	34	22	44
Nassau & Suffolk Cos., N. Y.	8	26	66	34	35	31
Rochester, N. Y.	10	22	68	42	26	32
Buffalo, N. Y.	12	18	70	17	47	36
Albany, N. Y.	4	18	78	18	31	51
Poughkeepsie, N. Y.	12	12	76	45	18	37
State of New Jersey	14	41	45	37	43	20
Philadelphia, Pa.	9	29	62	31	38	31
Reading, Pa.	..	18	82	..	38	62
York, Pa.	8	17	75	32	22	46
Lancaster, Pa.	2	19	79	6	36	58
SOUTH ATLANTIC						
Baltimore, Md.	19	35	46	60	26	14
Washington, D. C.	52	37	11	83	15	2
Norfolk, Va.	1	28	71	5	48	47
Richmond, Va.	22	30	48	53	26	21
MID-WEST						
Indianapolis, Ind.	21	8	71	71	8	21
Fort Wayne, Ind.	14	19	67	37	28	35
Toledo, O.	18	29	53	46	30	24
St. Louis, Mo.	24	24	52	69	17	14
Milwaukee, Wis.	22	21	57	60	20	20
Duluth, Minn.	23	53	24	43	47	10

DIVERSIFICATION AMONG FUELOIL MARKETERS



Individual Markets

	A	B	C
NEW ENGLAND			
Portland, Me.	72%	10%	7%
Boston, Mass.	76	28	11
Fall River, Mass.	76	7	15
Springfield, Mass.	66	26	18
Providence, R. I.	77	13	6
Hartford, Conn.	70	15	23
MIDDLE ATLANTIC			
New York City	78	11	5
Westchester Co., N. Y.	76	12	7
Nassau & Suffolk Cos., N. Y.	75	8	7
Rochester, N. Y.	32	31	12
Albany, N. Y.	75	18	10
Poughkeepsie, N. Y.	62	25	17
Binghamton, N. Y.	61	24	19
State of New Jersey	76	40	9
Philadelphia, Pa.	61	25	11
Reading, Pa.	51	20	17
York, Pa.	32	13	84
Lancaster, Pa.	33	14	47
SOUTH ATLANTIC			
Baltimore, Md.	73	19	37
Washington, D. C.	83	55	11
Norfolk, Va.	16	14	10
Richmond, Va.	54	25	27
MID-WEST			
Indianapolis, Ind.	14	40	27
Fort Wayne, Ind.	22	29	25
Toledo, O.	5	10	92
St. Louis, Mo.	52	14	39
Milwaukee, Wis.	33	28	42
Duluth, Minn.	12	8	83

nies roughly follows, East of the Rockies, the degree of identification with the sale of equipment. A majority of Eastern fueloil marketers assume the responsibility of servicing customers' oilburners. A minority of Mid-West fueloil companies, on the other hand, fulfill this obligation. Once again, however, the industry is apparently awakening to the fact that the typical heating customer prefers to look to one organization for the maintenance of his heating comfort in all respects.

As a liaison between local groups of independent fueloil marketers and the major and large independent oil suppliers, Oilheating Market Reports has been functioning since May, 1955. In this period, among 35 oilheating markets assisted, 20 have already commenced a positive activity to "keep gas from growing under their feet."

Prior to OHMR's existence, such group programs had been much smaller in size; almost universally they did not enjoy the financial participation of the supplying companies. Not more than $50,000 in funds from these sources had been received in all of the markets East of the Rockies.

Today, the results of the work of these aroused local industry groups is just beginning to bear fruit. Among the first 20 of the oilheating markets whose plans have been more or less formulated, promotional budgets totaling $830,200—nearly a million dollars—have now been set for 1956. Those markets comprising this group are:

New England	*Mid-West*
Boston, Mass.	Milwaukee, Wis.
Providence, R. I.	St. Louis, Mo.
Hartford, Conn.	Duluth, Minn.
Fall River, Mass.	Fort Wayne, Ind.
Springfield, Mass.	

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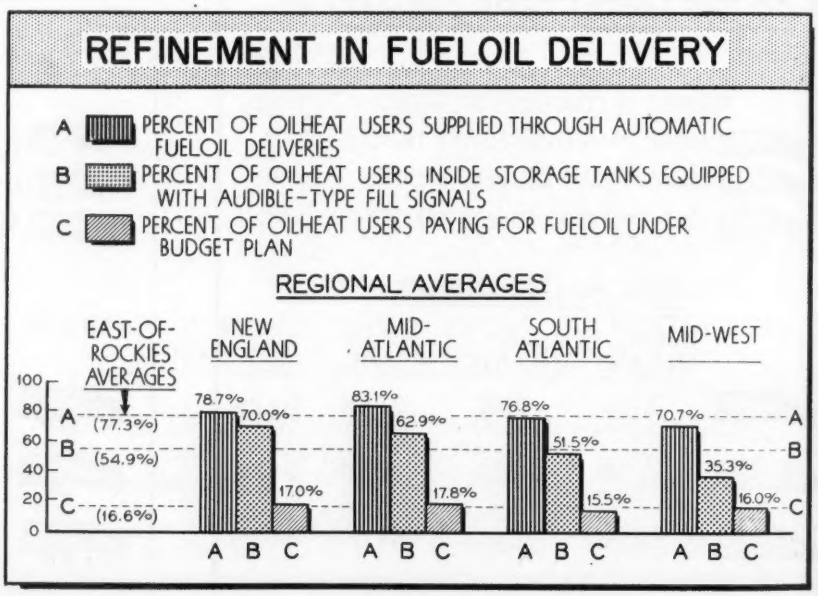
REFINEMENT IN FUELOIL DELIVERY



Individual Markets

	A	B	C
NEW ENGLAND			
Portland, Me.	81%	77%	15%
Boston, Mass.	85	83	20
Fall River, Mass.	80	62	20
Springfield, Mass.	73	61	17
Providence, R. I.	78	73	15
Hartford, Conn.	75	64	15
MIDDLE ATLANTIC			
New York City	80	74	13
Westchester Co., N. Y.	83	63	9
Nassau & Suffolk Cos., N. Y.	83	71	18
Rochester, N. Y.	85	71	17
Buffalo, N. Y.	82	40	20
Albany, N. Y.	83	62	17
Poughkeepsie, N. Y.	80	39	20
Binghamton, N. Y.	86	64	33
State of New Jersey	86	45	14
Philadelphia, Pa.	81	70	19
Reading, Pa.	88	86	16
York, Pa.	84	60	21
Lancaster, Pa.	79	73	14
SOUTH ATLANTIC			
Baltimore, Md.	78	73	9
Washington, D. C.	79	78	20
Norfolk, Va.	78	8	14
Richmond, Va.	72	47	19
MID-WEST			
Indianapolis, Ind.	76	8	14
Fort Wayne, Ind.	78	5	16
Toledo, O.	68	76	24
St. Louis, Mo.	85	74	12
Milwaukee, Wis.	63	34	7
Duluth, Minn.	64	15	23

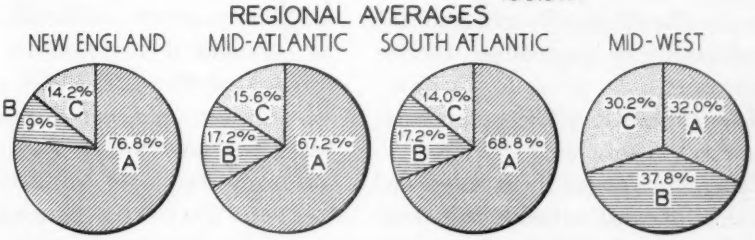
OILBURNER SERVICE

"WHO SERVICES THE EQUIPMENT?"

EAST-OF-ROCKIES AVERAGES

A	FUELOIL MARKETERS	61.2% OF BURNERS
B	PLUMBING AND HEATING FIRMS	20.3% " "
C	SPECIALIZED SERVICE FIRMS	18.5% " "
		100.0%

REGIONAL AVERAGES



Mid-Atlantic
New York City
Nassau & Suffolk Cos., Long Island
New Jersey (state)
Philadelphia, Pa.
Westchester Co., N. Y.
Rochester, N. Y.
Buffalo, N. Y.
Lancaster, Pa.
Albany, N. Y.
Reading, Pa.

South-Atlantic
Baltimore, Md.

In these same markets in 1955, marking the first part-year of OHMR activity, the aggregate of amounts raised for promotional programs was about half this, or $423,000.

With the continuing development of OHMR's activities, the interest of the local marketers themselves in protecting and expanding their industry, the growing inclination of suppliers to assist these groups in their efforts, and the spread of this action to additional oilheating market areas, the total of monies spent for insurance of the welfare of oilheat should mount.

While the industry, long over-due, rouses itself to pursue these courses, it should not neglect another function, of market measurement on a continuing basis. The vital statistics and the trends developing within have lacked a full-fledged scrutiny too long.

These, and other investigations by OHMR, by the trade organizations of the industry, by its publications and its individual marketers and supplier companies, are but a start in what should become a growing self-search by the industry into all of its inherent aspects.

Along these lines a more sensitive concept of customer attitudes is a most desirable working tool. OHMR, for its part, will soon begin to delve more into this field of investigation.

Certainly the industry should orient itself and secure its bearings to the fullest extent at the earliest possible moment. Its progress, if achieved, over future years, can only be measured against its known location now. And the wise direction of its efforts toward self-improvement can only be taken intelligently if we know, precisely, our present positions.

Individual Markets

	A	B	C
NEW ENGLAND			
Portland, Me.	77%	14%	9%
Boston, Mass.	68	22	10
Fall River, Mass.	68	20	12
Springfield, Mass.	70	19	11
Providence, R. I.	76	15	9
Hartford, Conn.	59	29	12
MIDDLE ATLANTIC			
New York City	78	13	9
Westchester Co., N. Y.	48	39	13
Nassau & Suffolk Cos., N. Y.	72	22	6
Rochester, N. Y.	27	41	32
Buffalo, N. Y.	53	33	14
Albany, N. Y.	70	19	11
Poughkeepsie, N. Y.	75	18	7
Binghamton, N. Y.	43	38	19
State of New Jersey	72	19	9
Philadelphia, Pa.	63	21	16
Reading, Pa.	53	18	29
York, Pa.	56	32	12
Lancaster, Pa.	35	41	24
SOUTH ATLANTIC			
Baltimore, Md.	73	22	5
Washington, D. C.	81	17	2
Norfolk, Va.	25	57	18
Richmond, Va.	43	50	7
MID-WEST			
Indianapolis, Ind.	11	53	36
Fort Wayne, Ind.	22	49	29
Toledo, O.	4	86	10
St. Louis, Mo.	33	44	23
Milwaukee, Wisc.	31	49	20
Duluth, Minn.	20	52	28

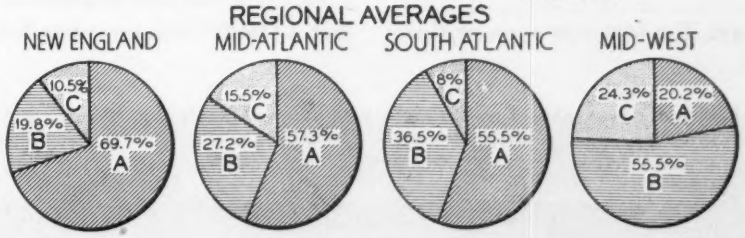
DISTILLATE OILBURNING EQUIPMENT SALES

"WHO SELLS THE EQUIPMENT?"

EAST-OF-ROCKIES AVERAGES

A	FUELOIL MARKETERS	50.7%
B	PLUMBING AND HEATING FIRMS	34.7%
C	SPECIALIZED SERVICE FIRMS	14.6%
		100.0%

REGIONAL AVERAGES



Individual Markets

	A	B	C
NEW ENGLAND			
Portland, Me.	80%	7%	13%
Boston, Mass.	74	9	17
Fall River, Mass.*	81	9	10
Springfield, Mass.	71	11	18
Providence, R. I.	80	8	2
Hartford, Conn.	75	10	15
MIDDLE ATLANTIC			
New York City	82	8	10
Westchester Co., N. Y.	77	10	13
Nassau & Suffolk Cos., N. Y.	81	12	7
Rochester, N. Y.	39	23	38
Buffalo, N. Y.*	87	6	7
Albany, N. Y.	81	9	10
Poughkeepsie, N. Y.	79	13	8
Binghamton, N. Y.	57	26	17
State of New Jersey	75	14	11
Philadelphia, Pa.	67	15	18
Reading, Pa.	49	24	27
York, Pa.	62	31	7
Lancaster, Pa.	38	33	29
SOUTH ATLANTIC			
Baltimore, Md.	86	8	6
Washington, D. C.	90	5	5
Norfolk, Va.	29	35	36
Richmond, Va.	70	21	9
MID-WEST			
Indianapolis, Ind.	13	47	40
Fort Wayne, Ind.	37	38	25
Toledo, O.	30	47	23
St. Louis, Mo.	48	21	31
Milwaukee, Wisc.	39	34	27
Duluth, Minn.	25	40	35

*Oilburner service cost included in fueloil charges.

Oilheating Roundup

In which a Handful of industry Specialists discuss 1955 Highlights

As an innovation this year an impromptu analysis of some of 1955's more active topics is presented in conversational form. Five key oilheating men were invited to sit for an afternoon with two of our editors, a stenotype reporter and a photographer.

Thumbing through the 12 monthly issues of FUELOIL & OIL HEAT *one topic after another was spotted and explored. In looking over the transcript it seems that 28 items were reviewed for their significance . . . in 35,000 words. Boiling this down to size is quite an undertaking and some of it will run over into the February and March issues.*

The men at the conference were the two Carsons from Baltimore, Tom of Sherwood Bros. and Jim of Fluid Heat Div., Anchor Post Prod., George Clement, CFM *Terminals, Philadelphia, Tom Scott, Buckley & Scott, Watertown, Mass., and Herb Spade, E. Robison, Inc., Hartsdale, N. Y. From the magazine were Bert Dunphy, managing editor, and Robert Gray, editor.*

THIS IS HOW THE CONVERSATIONS WENT:

Gray: The first new type of thing that shows up as we turn the pages is that American Petroleum Institute through its Refining Div. is putting up considerable money for research and development of long range weather forecasting.

Spade: Are they the only people interested in this?

Gray: That's what I'm trying to find out . . . of what value is long range forecasting to fueloil distributors like yourselves?

Clement: Tremendous. I mean, of course, forecasting for an entire winter or even for a month ahead may make a lot of difference in the number of drivers you are going to need. After all, truck drivers don't work by the year so much as they used to. They come and go, and even if they are experienced drivers you have to train them in your delivery methods, and the turnover is great, compared to what it used to be. If a month's weather can be predicted, you can anticipate that in your hiring and training of drivers.

Spade: I disagree with you. I think there is a rather marked trend in the opposite direction. You must take into consideration the entire country, of course, and not just one particular market. I think if you do you will find an increasing percentage of the gallonage being delivered by operators who in any one of three or four directions are building year-round operations as far as personnel is concerned.

Clement: You do that with a nucleus of men, certainly, but the extra men needed to take care of the humps are definitely temporary help.

Scott: They are in a union operation.

Clement: It makes no difference.

Spade: For five years we have had a union contract in our marketing area which guarantees year-round employment. This Ford idea of a guaranteed annual wage is something we have been living with for five years. We have got the drivers. Our problem is to develop an operation that will let us be sufficiently diversified to keep them busy when they are not needed on the trucks.

Gray: In your instance the long range forecasting does not mean very much but it means a great deal to the Philadelphia type of operation.

Spade: Put it this way: Up until about three years ago we used to train men in the fueloil department, on the trucks. Then we could move them over into the burner service and installation

That was a good one. *Key oilheating men meet with the editors to talk over significant happenings of 1955. Left to right are: Robert Gray, Herb Spade, Tom Scott, Jim Carson, Bert Dunphy, Tom Carson and George Clement.*

department in the summer. Now we are doing exactly the opposite.

We are training our service and installation men to pick up the peaks on the fueloil trucks from the 15th of December to the 15th of March. That is a trend which, to judge from inquiries I have made, seems to be pretty general.

Dunphy: What about your service men's union as contrasted to your drivers' union? Are they in the same group?

Spade: Yes, they are in the same AFL union and so far as the officials are concerned they don't care too much how the men are kept occupied so long as they have year-round employment.

Gray: Getting back to our original question, what's your thought, Tom, on long range forecasting?

Tom Carson: It's a good idea, but I don't know how effective it is. I hardly think it would be startling. We have done reasonably well with an advance training period with some seasonal help and the returnees coming back.

Gray: About what per cent of your fueloil drivers do you keep on the full year?

Tom Carson: Twenty-six out of 92, that's around 30%. Half of those would be on summer deliveries and the others on service station maintenance.

Scott: We have watched the API experiment with some interest. Up at MIT they have done a lot of basic research on long range forecasting. About five years ago they came to us and discussed how it might be applicable. We set up a test related to monthly forecasting, which at that time was 85% to 90% accurate.

We found it to be of little use to us. First, you have to have the trucks anyway. You just can't believe you can rely on something of this kind.

For our own purposes, in operating some 65 trucks of 11 related companies we have to have available a source of drivers—peak season and extra drivers—and I should say that our swing is as great as Tom's. I doubt that we keep over 20%, certainly not over 30%, of our drivers during the summer, and a five day Weather Bureau forecast, as far as we are concerned, is quite adequate.

If they can ever get to a point where the mean temperature can be predicted daily with reasonable accuracy for a month ahead that would be another situation.

Gray: I'm willing to agree that we can't expect too much benefit at the local distribution level and that we should leave it to the Refining Div. They can be helped by more general forecasts than we could use, in the estimating of how much product will be needed for the winter.

Let's now move on to another item. It has to do with the API Fueloil Committee, and here is a news story about its organization for 1955. Some oil men have raised a question as to whether a fueloil group in API really has any useful function. We've been in existence for a little over three years. We've tackled some problems, some successfully, some rather weakly. What do you gentlemen think of this committee and how can it be made more useful?

Tom Carson: From my angle the best job you are doing now is this offshoot called the Oilheating Market Reports.

As I understand it that was an outgrowth of a meeting of the Fueloil Committee two years ago. When you asked the members what they thought was the most important job to undertake next, they felt that in some way we should strengthen the position of fueloil against competing fuels.

Since this offshoot, though not actually handled by API, was the result of that meeting, I think the best you can do for the industry right now is just what you are doing, only more of it.

Gray: Twice a year we go to an API convention, the annual one in November and the Marketing Div. sessions in the Spring . . . this time it will be in May at Atlanta. Our program committee puts some special committees together and they explore industry problems, prepare papers for these twice-a-year meetings.

But I have some feeling, and so do a few others, that we may be shadowboxing except for some of the big name

"It's a good idea, *but how effective is it?" asks Tom Carson.*

guest speakers that we bring in.

What do you think would be the most effective use of that committee?

Spade: Don't you think that while it might be a fringe benefit it has focused important thinking on the matter of how to market heating oil?

Gray: The paper that Bill Ray of Esso brought to the San Francisco API meeting states very clearly that if you are going to be in the domestic oilheating business, you've got to be in it with both feet including equipment and service.

Spade: So that is, of course, forcing the thing. Some of the integrated companies, if they choose to go ahead and continue direct marketing, find themselves on the spot in connection with sales, service and installation of the equipment.

As Duffy might put it, "leave us face the facts." Bill Ray stated in his talk that 80% of the heating oil is delivered by independent distributors who render a package service. That does not imply that the integrated companies should not continue to market, but if they do, let them make their operations complete in every respect. In one city in New York State less than 20% of the gallonage is being handled by people who have complete oilheating services.

Eighty per cent is being delivered by majors who neither install nor service oilheating equipment. That makes a weak market from the public standpoint.

One thing that has come out of API's Fueloil Committee has been to focus the thinking of the marketing vice-presidents on this aspect of oilheating.

Jim Carson: My associations have been a little different from those of the other men. But I have found a certain resentment on the part of the smaller oil marketer over the fact that the major companies tend to sit back and watch. It goes back to what Herb and Tom have said about the integrated companies presentation of a package the same as the smaller man. It reminds me of the Christian who doesn't go to church. He thinks about it but still he doesn't go.

Scott: You should interest them more in the profit potential of direct marketing. It sounds like cutting our own throats to create this added competition in the oil industry, but I believe we are individually strong enough to hold our own.

Jim Carson: There is a certain uniformity of thinking in the gas industry brought out through GAMA that has spread over the entire trade in a way that does not exist with oil. You can say the same about AGA.

They all talk the same language and it is a combined effort between the equipment manufacturers and the gas utilities. It has a tremendous impact not only on heating men but also on the public because they will go all over the country and see the same theme.

Scott: So you are suggesting, Jim, that the Fueloil Committee of API can be the catalyst between the equipment manufacturing and the oil producing end of the business.

Jim Carson: Exactly.

Scott: The Oil Heat Institute would be willing to help if invited, I believe, but API has not shown any great interest in cooperating.

Gray: We have major oil men on the Technical Committee of OHI. They have done some good things and seem quite anxious to go on. Bill Sullivan of Shell is the chairman.

OHI has not invited the major oil companies into membership to the best of my recollection. In the earlier years some majors asked about joining OHI but they were admitted only at the distribution or local market level. The reason in those years was that the oil companies were so large compared to the equipment people that the thing would be top-heavy.

It has been sometimes distressing to see the smaller support from equipment manufacturers in oilheating as contrasted to the gas industry. GAMA is getting a lot more promotional money out of the manufacturers than is OHI.

Jim Carson: The manufacturers of gas equipment have seen that participation gets results. There is an equal sharing of the desire and the tax load —if I can put it that way.

The oil companies have done little promoting up until this new thing started. The manufacturers have been carrying the advertising load in national publications and in trade magazines. Now that the promotion campaigns are starting a lot of manufacturers are going to sit back and say, "How far do they intend to go? Is it just a flash?"

From what I have learned, talking with other manufacturers, there is nothing that would delight us more than to be able to get aboard a program which will actually get results for oilheating.

Scott: If you make a quick analogy on results with the figures in a current issue of a certain heating magazine, you will realize that there was more money spent on advertising by the gas utilities around Boston than was spent in the entire country to advertise oil heat.

Spade: This may not be the place to bring it up but sooner or later the industry has got to clear up a situation on the Type B flues. I'm not sure that I can tie it in with all of its ramifications, but of course many equipment manufacturers have both oil and gas heating, so they are not going to throw both feet over on the same side of the fence very hard. The way the matter stands at the moment there is nothing legal about a Type B flue, but almost no one is doing anything about it.

Gray: It is being stirred up and worked on in New York State; it is coming up for review in a number of places. I note that North Carolina has banned it in some cities.

One difficulty here is that the flue itself determines the kind of fuel that

can be used. Gas heating will not work well with conventional large flues unless they put in a liner that pulls it down to small size. Their stack temperatures are too low to heat up a standard flue and get a decent draft. Type B flues may never, for that reason, be totally excluded but they should certainly be fought at every opportunity for reasons of safety and the public interest. To exclude all but one fuel from a home is shortsighted.

Scott: We were mentioning carrying water on both shoulders. What disturbs me is that the big gas manufacturers, by and large, have already unloaded one bucket to a great extent . . . speaking of those manufacturers who make a real living out of it and who are selling the majority of gas units in most markets.

Spade: The whole point here is whether there is a cohesion between these various interests in the gas industry that does not exist in the oil industry.

Gray: Among the manufacturers who sell both oil and gas equipment, their gas sales are usually a small share of their total. But they put substantial sums into it. They feel it is pioneering. They are trying to establish themselves against those few big companies that you were just talking about.

The situation today is essentially our fault; somewhere we haven't handled the thing right.

We have moved rather far from the Fueloil Committee discussion. I can see that they have a job to do.

Let's look at this next item—New homes got 43% of installations. A visitor the other day from one of the very large companies was concerned about the future of the equipment business because oil and gas heating in 1955 sold two million installations. "How long," he asked, "can the industry keep that up?"

Scott: Has the Frigidaire market been saturated? Ten years ago 86% of American families had electric refrigeration. Since then the industry has had bigger years than they ever had before.

Gray: They have a considerably shorter life and then there is the matter of style. Down in the country we have an old Frigidaire bought in 1932. It's one of those cork insulated things with the porcelain cabinet. Mrs. Gray swears by it, but we don't have a friend anywhere that doesn't use a shiny new one.

They have a pretty rapid turnover because of style which we can't count on.

Scott: I think we sell the oilheating business a little short from the standpoint of the market for replacement equipment. On our total installations we are running over 56% replacement business. In fact, it was interesting to notice that we also increased our equipment sales by 56% this year and all of that gain was in replacements . . . our conversion business stayed the same.

Frankly, our philosophy on this was brought out the day before yesterday when we got together to plan our 1956 advertising program of the local association. Several large dealers were there and without previous conversation they all felt exactly the same way. They are now teaching their salesmen to 'go for broke' . . . they are forgetting the conversion oilburner for replacements and are going for the boiler-burner tankless unit and on warm air they are replacing the old duct work with modern rectangular types. They are selling benefits, just as much as on a fancy two-door refrigerator with Shelvador and egg racks.

Gray: In our work at OHMR we are learning that central heating with coal has dropped about half in the last five years. These are mostly large markets and it may not have dropped so sharply in the smaller places, but it's becoming clear that neither the oil nor gas heating industries will have as many coal conversions ahead as they have gotten up to now.

The new home market this year was about 43% of oil installations and probably half of gas heating. We've got to find ways to build it along with the replacement business if we are going to carry on with another five years of today's high levels.

Scott: Hasn't the price chiseling that has been so prevalent in the industry made a market for us? It would seem to me that the tendency to first sell a conversion burner at the lowest cost is building a future market that either we or gas are going to get. But there is definitely a heavy replacement business building up.

Gray: In the Boston market, would you say that 20% of the present installations are legitimate prospects for replacement?

Scott: It is higher than that. In the first place I think that with any one of the older coal boilers, and there are a great many of them around Boston which is 65% wet heat, any one of those is a prospect for a new complete unit. On our own installations this year 48% are complete units, which we admit is not high enough.

EDIT. NOTE—*We'll break it off here until next month. Additional topics on which these key men gave their views included the need for more engineering development in oilheating, a moderate priced water heater to burn No. 2 fuel, how to attract more good salesmen, the future of cooling, the benefits from fueloil additives, college management clinics, the Harris gas bill, central service organizations, sun-and-wind effect on degree-days, commercial oilburning, development of a consumer movie for oilheating, profit margins in oil, trading stamps or cash discounts.*

"We have watched *the experiment with considerable interest" seems to be the attitude shown here by Jim Carson and George Clement.*

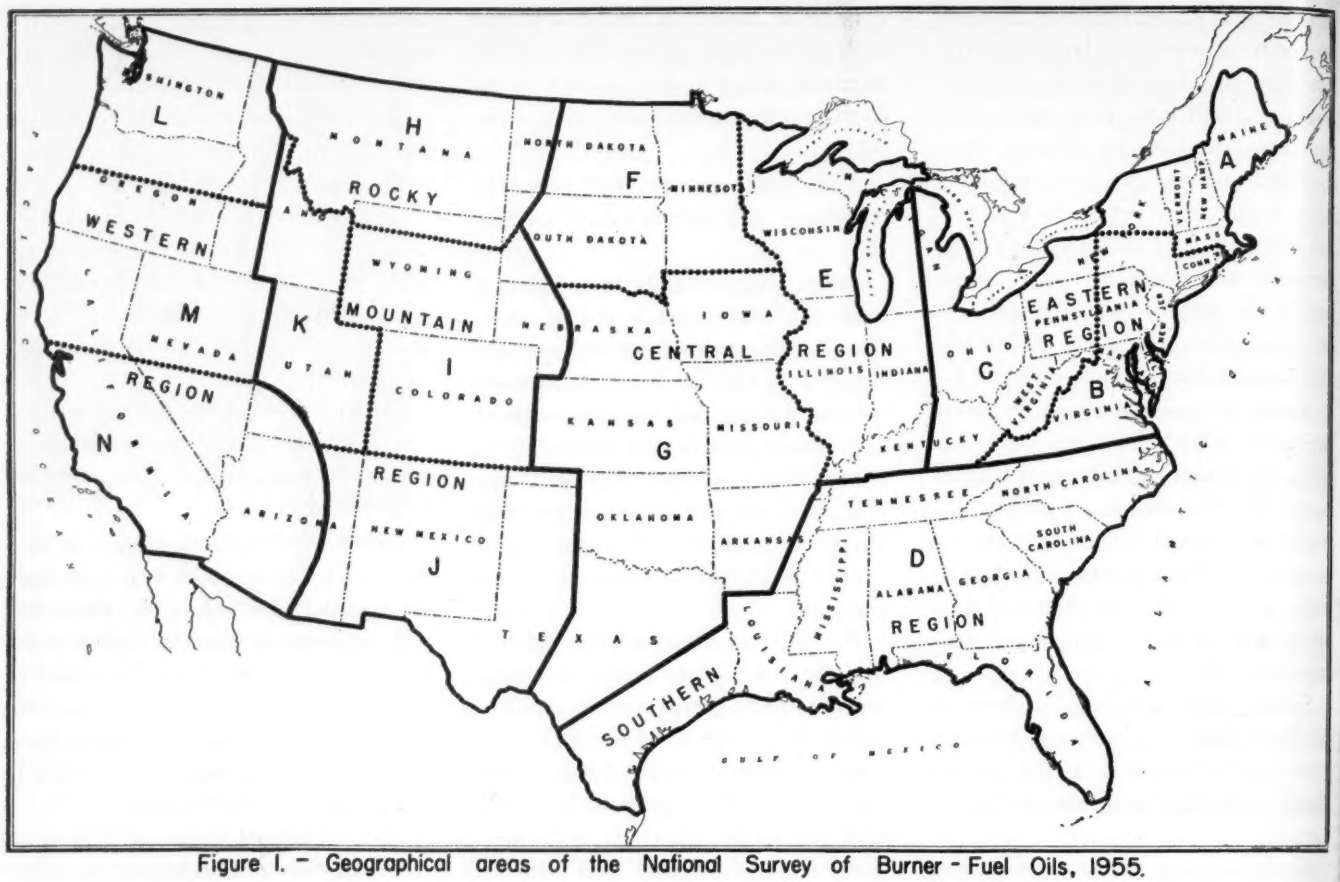


Figure 1. – Geographical areas of the National Survey of Burner-Fuel Oils, 1955.

Survey of Burner-Fueloils published by Bureau of Mines

THE TABLES and map reproduced on these pages appear in Information Circular 7730, published by The Bureau of Mines, U. S. Dept. of Interior, entitled "National Survey of Burner-Fueloils 1955."

This study, the result of a request from the Technical Division, Oil-Heat Institute of America, is an extension of a previous agreement between the Bureau of Mines and the American Petroleum Institute which covered diesel fuels.

The summaries as tabulated represent data from 341 samples of fueloil, produced by 35 petroleum refiners, large and small, in 97 refineries throughout the country. Shown are average, minimum and maximum specifications for Nos. 1, 2, 4, 5 and 6 fueloil, with each group divided into five tabulations according to the geographic marketing distribution of the fuels represented. These areas are the five general regions of the country containing 14 marketing districts.

Copies of the survey may be secured from the Bureau of Mines, Washington, or OHI, New York.

Summary of Grade 2 Fuels, Burner-fueloil Survey, 1955

Geographic distribution of burner-fuel oils[1]		Eastern region			Southern region			Central region			Rocky Mountain region			Western region	
Districts within region		A, B, C			D			E, F, G			H, I, J, K			L, M, N	
Additional districts[2]		D, E, G			A, B, C, E, G			B, C, D, H, I, K, L			E, F, G, L, M			F, H, I, K	
Number of fuels		40			11			36			17			20	
Test	A.S.T.M.	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average
Gravity, ° A.P.I.	D287	29.0	35.9	44.7	30.3	34.8	36.9	29.5	35.4	39.5	25.8	35.9	41.8	25.8	34.1
Flash point, Pensky-Martens closed tester, ° F.	D93	126	—	206	134	—	172	134	—	218	135	—	210	134	—
Viscosity															
Kinematic at 100° F., centistokes	D445	2.05	2.61	3.30	2.05	2.44	2.92	2.05	2.54	3.34	1.77	2.55	3.65	1.60	2.97
Cloud test, ° F.	D97	—15	—	18	—2	—	12	—22	—	15	—40	—	5	—40	—
Pour point, ° F.	D97	—20	—	10	—10	—	0	—25	—	0	—40	—	0	*—60	—
Sulfur content, wt. percent	D129	0.03	0.325	0.80	0.05	0.339	0.60	0.056	0.330	0.96	0.05	0.443	0.99	0.17	0.471
Aniline point, ° F.	D611	118.0	145.4	176.0	118.0	139.1	156	116	140.1	165	87	139.4	160	87	139.4
Ramsbottom carbon residue on 10 percent residuum, percent	D524	0.003	0.115	0.25	0.03	0.123	0.23	0.03	0.122	0.24	*0.06	0.098	0.22	*0.06	0.097
Corrosion, 3 hours at 122° F.	D130	0	—	1	0	—	4	0	—	1	0	—	1	0	—
Ash, percent	D482	0.000	0.001	0.01	0.0	0.003	0.01	0.000	0.001	0.01	0.000	0.000	0.000	0.00	0.000
Water and sediment, vol. percent	D96	0.00	0.00	*0.1	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	Trace	0.00	0.00
Distillation test, on volume recovered basis:	D158														
Initial boiling point, ° F.		318	355	460	321	340	370	300	358	460	329	371	405	336	375
10 percent		368	425	486	373	415	438	368	424	491	393	432	464	384	439
50 percent		461	501	538	480	499	513	468	502	544	439	495	521	410	504
90 percent		555	584	630	565	587	618	537	578	618	464	567	624	451	582
End point		592	638	668	613	640	675	558	625	675	510	617	676	487	636

[1] Regions and districts are shown on map.

[2] Some of the fuels are sold in districts of more than one region.

*Is less than.

Summary of Grade 1 Fuels, Burner-fueloil Survey, 1955

Geographic distribution of burner-fuel oils[1]		Eastern Region			Southern region			Central region			Rocky Mountain region			Western region		
Districts within region		A, B, C			D			E, F, G			H, I, J, K			L, M, N		
Additional districts[2]		D, E, G			A, B, C, E, G			C, D, H, I, K, L			E, F, G, L, M			F, H, I, K		
Number of fuels		25			8			35			19			15		
Test	A.S.T.M.	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, ° A.P.I.	D287	40.6	43.6	48.5	41.2	42.7	44.6	38.8	42.3	44.6	39.1	42.3	44.6	35.2	38.5	42.7
Flash point, Tag closed tester, ° F.	D56	114	—	150	128	—	146	122	—	162	120	—	150	125	—	185
Viscosity																
Kinematic at 100° F., centistokes	D445	1.42	1.64	2.0	1.59	1.72	1.9	1.54	1.79	2.3	1.47	1.67	1.99	1.54	1.89	2.2
Cloud test, ° F.	D97	—56	—	0	—44	—	*0	—56	—	20	*—50	—	—10	—56	—	—20
Pour point, ° F.	D97	—60	—	*0	—55	—	—35	—60	—	—10	—55	—	—20	*—60	—	*—20
Sulfur content, wt. percent	D129	0.025	0.089	0.272	0.025	0.048	0.10	0.025	0.140	0.50	0.018	0.147	0.377	0.01	0.222	0.44
Aniline point, ° F.	D611	143.5	151.1	168.8	146	150	152	135.9	149.6	159	135.9	145.9	155	120	139.4	155
Ramsbottom carbon residue																
on 10 percent residuum, percent	D524	0.00	0.059	0.13	0.01	0.051	0.13	0.01	0.067	0.123	0.002	0.056	0.105	0.03	0.075	0.11
Corrosion, 3 hours at 122° F.	D130	0	—	1	0	—	1	0	—	1	0	—	1	0	—	2
Ash, percent	D482	0.000	0.000	0.001	0.00	0.000	*0.001	0.000	0.000	0.004	0.00	0.000	0.001	0.00	0.000	*0.01
Water and sediment, vol. percent	D96	0.00	0.00	*0.1	0.00	0.00	*0.1	0.00	0.00	Trace	0.00	0.00	Trace	0.00	0.00	Trace
Distillation test,																
on volume recovered basis:	D86															
Initial boiling point, ° F.		320	341	366	332	345	366	317	347	387	317	349	382	323	350	396
10 percent		350	376	399	364	379	392	360	385	423	360	385	410	362	399	420
50 percent		397	424	462	416	427	448	416	437	464	403	431	461	410	447	466
90 percent		443	488	540	468	492	524	468	506	540	465	495	551	451	508	549
End point		496	531	576	502	527	550	502	548	585	496	545	580	487	553	586

Summary of Grade 4 Fuels, Burner-fueloil Survey, 1955

Geographic distribution of burner-fuel oils[1]		Eastern region			Southern region			Central region			Rocky Mountain region			Western region		
Districts within region		A, B, C			D			E, F, G			H, I, J, K			L, M, N		
Additional districts[2]		D, E			B			H, K, L			F, L			F, H, I, K		
Number of fuels		17			3			3			4			3		
Test	A.S.T.M.	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, ° A.P.I.	D287	12.8	22.1	33.3	14.5	20.8	26.5	14.5	18.7	24.0	14.5	26.0	35.9	14.5	23.2	30.0
Flash point, Pensky-Martens closed tester, ° F.	D93	160	—	230	154	—	225	156	—	240	200	—	240	160	—	240
Viscosity																
Kinematic at 100° F., centistokes	D445	7.09	17.20	25.0	5.8	13.9	25	14.2	17.9	22.6	6.45	16.1	22.6	10.2	16.4	22.6
Cloud test, ° F.	D97	10	—	34	—	[3]20	—	—	—	—	—	[3]10	—	—	[3]10	—
Pour point, ° F.	D97	*—45	—	20	—15	—	15	—40	—	0	—40	—	70	—40	—	0
Sulfur content, wt. percent	D129	0.28	0.826	2.05	0.19	0.50	1.0	0.43	1.45	3.27	0.10	1.74	3.27	1.00	2.12	3.27
Aniline point, ° F.	D611	117.2	[4]	178.7	—	[3]163	—	—	—	—	—	[3]142	—	—	[3]142	—
Ramsbottom carbon residue																
on 100 percent sample, percent	D524	0.45	3.11	6.05	0.10	1.61	4.24	5.0	5.95	7.6	0.06	3.40	7.6	0.06	2.99	7.6
Corrosion, 3 hours at 122° F.	D130	—	—	1	—	—	[3]5	—	—	—	[3]0	—	—	[3]0	—	—
Ash, percent	D482	0.000	0.012	0.042	0.001	0.002	0.005	0.007	0.011	0.018	0.00	0.010	0.03	0.00	0.010	0.02
Water and sediment, vol. percent	D96	0.00	0.15	0.44	—	Trace	—	0.2	0.30	0.7	0.0	0.05	0.1	0.0	0.03	0.10
Distillation test,																
on volume recovered basis:	D158															
Initial boiling point, ° F.		351	[4]	440	—	[3]382	—	—	—	—	466	[4]	504	—	[3]504	—
10 percent		447	—	544	—	500	—	—	—	—	498	—	534	—	534	—
50 percent		534	—	640	—	610	—	—	—	—	570	—	585	—	570	—
90 percent		716	—	748	—	700	—	—	—	—	630	—	744	—	630	—
End point		718	—	842	—	†760	—	—	—	—	686	—	†760	—	686	—

Summary of Grade 5 Fuels, Burner-fueloil Survey, 1955

Geographic distribution of burner-fuel oils[1]		Eastern region			Southern region			Central region			Rocky Mountain region			Western region		
Districts within region		A, B, C			D			E, F, G			H, I, J, K			L, M, N		
Additional districts[2]		D, E, G			A, B, C, G			C, D, H, I, K, L			E, F, G, L			F, H, I, K		
Number of fuels		13			4			19			9			14		
Test	A.S.T.M.	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, ° A.P.I.	D287	2.3	15.2	19.5	14.4	16.4	18.0	2.3	13.1	22.0	4.8	11.0	20.2	10.1	14.3	18.5
Flash point, Pensky-Martens closed tester, ° F.	D93	132	—	260	198	—	220	158	—	255	130	—	306	130	—	306
Viscosity																
Kinematic at 100° F., centistokes	D445	36.4	73.2	116.5	38.38	71.6	130	46.06	76.9	130	47.32	[4]	162	77.7	[4]	162
Furol at 122° F., seconds	D88	15.6	24.6	40.0	15	24	35	11	24.4	38	18	30.1	40	22.5	32.5	40
Pour point, ° F.	D97	—20	—	40	—15	—	40	—15	—	40	—15	—	60	—20	—	40
Sulfur content, wt. percent	D129	0.43	0.96	2.06	0.73	1.67	2.70	0.50	1.39	3.40	0.810	2.38	4.8	0.5	1.97	4.8
Ramsbottom carbon residue																
on 100 percent sample, percent	D524	2.69	5.98	10.13	3.8	5.55	8.64	3.8	7.43	11.8	0.61	5.57	10.2	3.80	8.34	14.4
Ash, percent	D482	0.008	0.024	0.053	0.026	0.039	0.05	0.003	0.044	0.19	0.002	0.025	0.09	0.01	0.037	0.07
Water and sediment, vol. percent	D96	0.10	0.33	0.8	0.10	0.30	0.8	0.1	0.25	0.8	Trace	0.13	0.2	Trace	0.13	0.20

Summary of Grade 6 Fuels, Burner-fueloil Survey, 1955

Geographic distribution of burner-fuel oils[1]		Eastern region			Southern region			Central region			Rocky Mountain region			Western region		
Districts within region		A, B, C			D			E, F, G			H, I, J, K			L, M, N		
Additional districts[2]		D, E, G, J			A, B, C, E, G, J			C, D, H, K, L			A, B, D, E, F, L			F, H, I, K		
Number of fuels		35			14			28			17			24		
Test	A.S.T.M.	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum	Minimum	Average	Maximum
Gravity, ° A.P.I.	D287	3.6	11.8	17.5	6.2	10.6	13.9	—1.1	10.3	23.2	4.5	10.0	20.2	7.8	9.9	15.6
Flash point, Pensky-Martens closed tester, ° F.	D93	154	—	290	152	—	230	160	—	430	150	—	420	150	—	420
Viscosity																
Furol at 122° F., seconds	D88	64	169.9	290	70	165.3	240	70	195.3	295	51.2	167.7	276.1	70	148.9	236
Pour point, ° F.	D97	10	—	80	10	—	80	20	—	80	20	—	60	5	—	60
Sulfur content, wt. percent	D129	0.56	1.44	3.63	0.45	1.55	2.86	0.60	1.38	3.46	0.40	2.14	5.25	0.5	1.97	5.25
Ramsbottom carbon residue																
on 100 percent sample, percent	D524	2.78	10.19	22.65	4.5	10.86	22.65	1.30	12.41	20.9	0.61	10.40	21.20	3.75	12.91	18.1
Ash, percent	D482	0.0	0.044	0.15	0.010	0.076	0.15	0.014	0.150	1.9	0.006	0.055	0.4	0.01	0.051	0.11
Water and sediment, vol. percent	D96	0.04	0.29	0.75	0.05	0.283	0.60	0.1	0.32	0.8	Trace	0.42	1.8	0.03	0.20	0.9

[1]Regions and districts are shown on map. [2]Some of the fuels are sold in districts of more than one region. [3]Result of test on one sample only. [4]No average was determined as an insufficient number of samples was represented. *Is less than. †Is greater than.

Selling a "different" Fueloil

Herbert "Sunny" Johnson makes his oil "Desert Dry" and it helps Sales

SKIMMING DOWN the highway, U.S. 99, between Seattle and Tacoma the visitor is attracted at one point by a curious looking arrangement of small tanks and husky looking pipes. They might be mistaken for a new concept from Buck Rogers or some fresh development of guided missiles, were it not for the big sign that makes everything clear . . . "This equipment removes all moisture and filters our stove and furnace oil."

Making a big feature of dry oil, giving it lots of advertising support, has built a nice volume for Aaberg Fuel Co. in very few years.

Aaberg Fuel Co., of which Herbert "Sunny" Johnson is general manager and the active operator, was in the coal business in Tacoma starting in 1930 . . . it still is, with a quite sizable tonnage. But it was not until 1950 that the owners decided that fueloil would be a help to the business, and bought a truck to try it out.

Tacoma in 1950 was a highly developed fueloil market. There were a half dozen very strong distributors and a lot of smaller outfits, all pretty well entrenched. Johnson would not be selling oilheating equipment, so he could make headway only by selling oil to former coal customers or by simply bucking the market in any way he could.

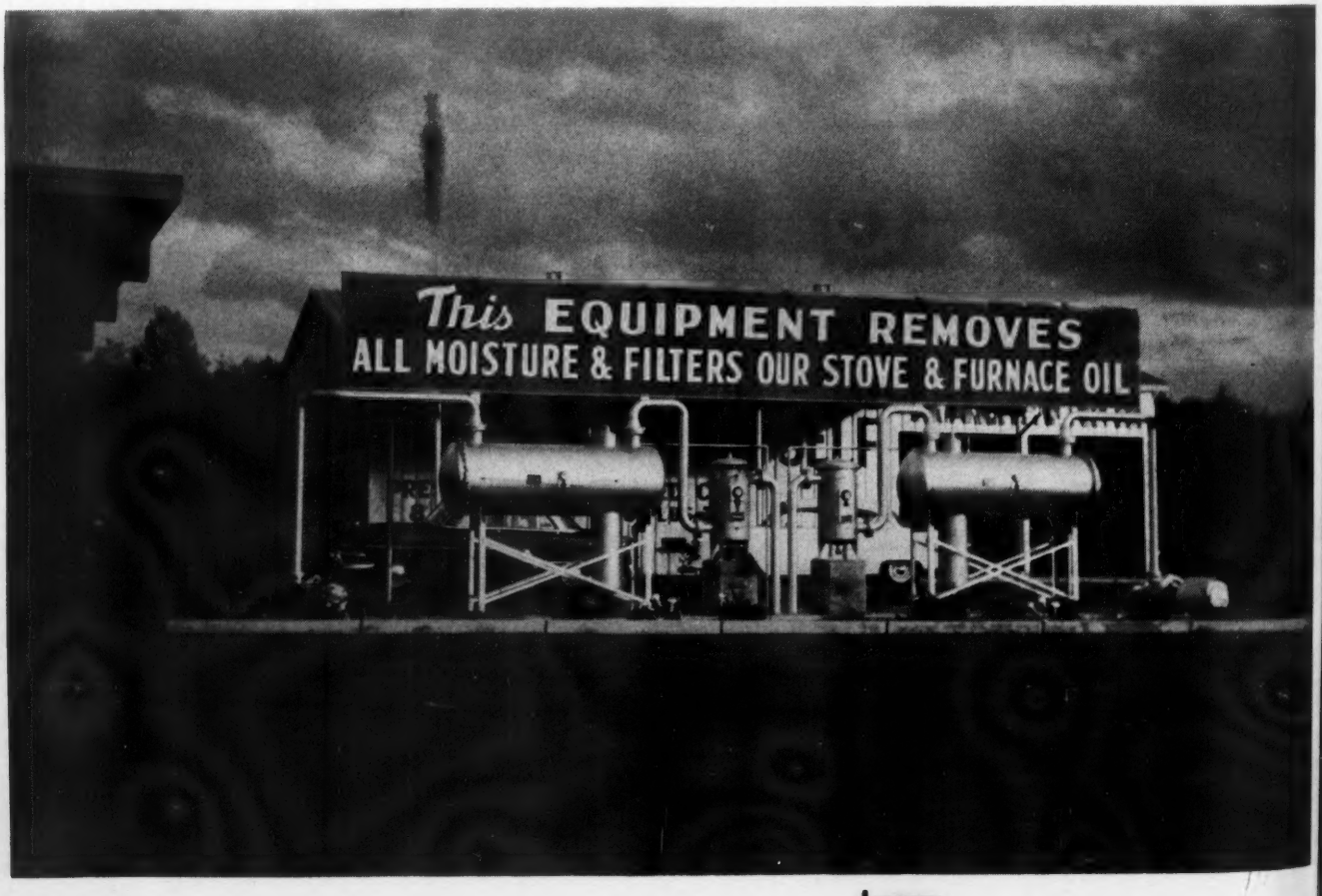
It was slow going at the start and not particularly profitable. Fueloil customers, properly treated, are hard to convince they should change dealers.

Eventually he came up with the idea that his best chance to move ahead would come through offering something distinctive in a type of oil. The general public recognized little difference in quality, bought rather from companies it had learned to like.

Johnson always had been a strong advertiser. If he could talk convincingly about a totally different oil, things would speed up. Where he got the idea of a "dry" oil was not mentioned but the oil men in Tacoma soon learned that he was installing filtering equipment (Excel-So made by Warner-Lewis Co., Tulsa) at his two plants, Tacoma and Midway.

He coined the term "Desert Dry," copyrighted it and went to work. Radio, television and newspapers told the folks about this new boon to their heating satisfaction. Dramatizing the feature by installing his filters practically on the front lawn of his plants brought more recognition.

Today Johnson operates six fueloil



Filtering unit at Midway. *One pair of filter tanks is for each type of oil. The truck loading rack is inside the building at the rear (to keep out raindrops) with 40,000 gallons of buried storage just behind the filters. The only pumps are those at either end of the filtering platform, connected between the storage and the filters. Loading is at 350 gpm. The horizontal filter tanks remove water and coarse particles, the small vertical ones contain micronic filter units effective down to 5 microns. Filter units are renewed at a 5 lb. change in pressure.*

Plant office at Midway, *located on U.S. 99 highway. The top section of the large neon sign rotates above a frame representing an oil derrick.*

trucks, a healthy volume is indicated, particularly since the whole fueloil effort is but five years old and the early part of this period was pretty draggy.

One characteristic of the Northwest market was of help to Johnson with his idea. A surprising number of modern small homes use space heaters or floor furnaces and burn "stove" oil, essentially a No. 1 grade. Many have no basements and mount their tanks above ground back of the house. Any accumulation of moisture finds the low spots in the line and it's quite common to hear of frozen oil lines. They don't happen to a lot of people, but everyone has talked about them.

That's one point Johnson features in his advertising—no moisture, no frozen lines. Again he claims that with vaporizing equipment at the low fire stage, they soot up quicker if any moisture is present.

He advertises that all reputable fueloil leaves the refinery in good shape, but that it picks up water, sometimes sediment and scale, in the tankers, the bulk plants and the trucks . . . he puts it back to its original clean condition.

He explains that only insignificant moisture accumulates in the customer's tank through condensation, that the real sources of trouble are the tankers and the storage plants.

To prevent contamination in his delivery trucks, Johnson uses four with dual equipment, handling both stove and furnace oils. The other two handle only one product. He says it's too hard to prevent some blending where single-equipped trucks handle both products. A hose full of No. 2 will seriously affect a delivery of No. 1, also you never quite drain the truck tanks between products, he points out.

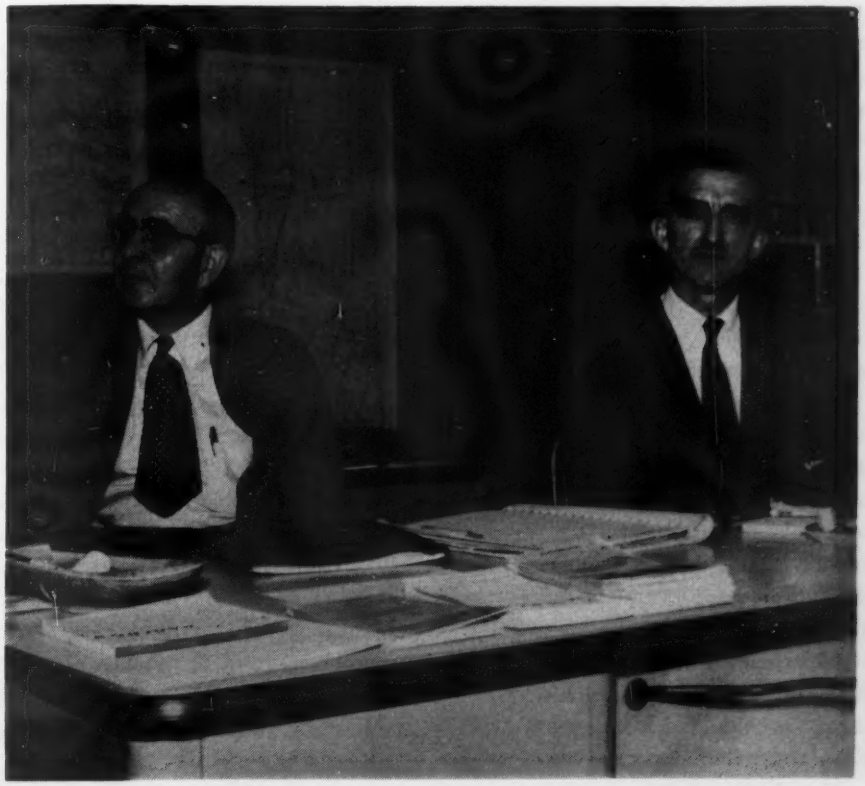
To avoid mixups on the dual trucks, he uses two sizes of meter tickets; also they're printed in two colors.

The company operates over a surprisingly large territory. The two plants, 20 miles apart, serve a strip about 50 miles long and 5 to 10 miles wide. Asked about the cost of these less-concentrated deliveries, Johnson claims he can operate a truck three miles in rural areas for the cost of one mile in Tacoma.

There's naturally some cost to the filtering operation. A new set of filters costs $55. They should be changed with each 100,000 gallons of furnace oil or 150,000 gallons of stove oil. That's around 1/20¢ a gallon and it's essentially a sales expense. The initial investment in the filtering layout was about $5,000 at each plant, but it has certainly paid off for Johnson.

New customers will phone in and say, "Be sure we get that dry oil."

Perhaps the most satisfying experience has been the stability of price. When he started in 1950, pushing for accounts, there was a lot of pressure for discounts, special deals. Today that has entirely disappeared. When folks have been persuaded that they're getting something extra in the nature of the oil, no one, according to Johnson, ever mentions the point of getting a fraction off. That wouldn't be hard to take.



Discussing the features *of "Desert Dry" oil in the office of the Midway bulk plant are H. H. Eagles, left, plant manager, and Herbert Johnson, active operator of the company.*

How to adjust an Oilburner

Twenty steps of a complete yearly Check-up and Tune-up—without Instruments

by
J. W. Schulz

OILBURNERS NEED YEARLY ATTENTION!

That oilburners need yearly service certainly is well established in the minds of at least 99 burner experts out of 100.

Not every burner is serviced every year, of course, even in cities where fueloil suppliers and service organizations strenuously recommend yearly servicing. Individual burner owners have much control over the matter. Some never call for service except to get a brokendown burner going again. Others call for thorough check-ups only after getting the feeling their burners are suffering abuse because they have not received attention from servicemen for, say, three to six years.

Thus even the serviceman in favor of yearly service attention for burners is bound, in his daily work, to encounter many burners which have run for several years without the benefit of a serviceman's ministrations.

What's a serviceman to do when he starts working on such a burner, which has been neglected for years? What's he to do for the burner which unfailingly receives the yearly service attention it should get?

In the case of a brokendown burner that's been neglected for years, the serviceman should try to find out from the owner if the work should be confined to finding and eliminating the immediate defect that caused the breakdown. To minimize the bill, the owner might want just that. Or if he is wiser and wants to invest a bit of money in more efficient and dependable burner operation, he will want a complete check-up and tune-up in addition. This can include the items of a thoroughly good yearly check-up and tune-up.

The twenty steps which follow, which constitute a yearly check-up and tune-up for a pressure burner, necessarily appear here in a certain order. This order is of little importance when the work is actually done, however. More often than not a serviceman has good reasons for shifting from his original intentions; changing an adjustment often means changing other adjustments which the serviceman made earlier. Whether you check the fuse protection or the operation of an important control early or late, as you go over the installation, makes no difference. What's important is that you don't fail to check every item before you leave the job.

Step 1—Proper Flame Size

Listed first here because of its tremendous importance, proper flame size is your responsibility when you give a job its once-a-year check-up—even though for years the burner may have been producing the wrong size flame.

Try to avoid flame sizes so great that burners run a total of only 10 to 12 hours on the coldest days (literally the coldest days, which mean zero temperatures in cities where the design temperature for heating plants is zero).

You don't find it practical, of course, to cut gph firing rates one-third in the case of new, small well-insulated homes having oil-designed furnaces fired at .65 or .85 gph. That would head you straight into nozzle plugging trouble!

If the installations you see are typical, however, you will find furnaces and boilers fired at, say, 1.75 gph—though lower gph rates of down to 1.25 gph would be suitable. Use a 1.75 gph firing rate for a furnace that would heat the house properly when fired at 1.25 gph, and you produce the same effect as adding 40% heating load to the furnace!

You have a great advantage if you know the yearly consumption of a furnace. Divide this by 1,200 (for smallest jobs) to 1,500 (medium to large size jobs needing gph firing rates above about 1.25 gph) to estimate the gph firing rate that suits the furnace. Even that won't give too low a gph firing rate for many installations.

A furnace using 1,500 gallons of oil per year for heating uses only 15 gallons of oil per zero day, in an area where the design temperature for heating plants is zero. Figure out for yourself the firing rate you need for such a job to insure the burner's running 15 hours on a zero day.

Aim to use the lowest gph firing rates that provide your customers with excellent heat on coldest mornings.

Always leave word about this for the owner, when you reduce the fire size on a job you found greatly overfired—else you invite a complaint about the burner's running differently because you changed it. Leave word you have corrected the fire size, and that as a result the flame will be smoother and quieter; the burner will run additional hours, and the fuel bills will be considerably lower.

Step 2—Flame Shape

This step involves trying to provide the proper flame shape for the shape of the firebox, a nicety which burner lovers emphasize because it affects both clean burning and efficiency. A long, narrow firebox should not have a short, bushy flame that causes bright spots and carbon formations on firebox side walls. A round firebox or a short, rectangular firebox should not be fired by a long, straight "dogtail" flame that overheats the firebox rear wall, builds up carbon on it, and causes smoke to pour up into the flues.

Changing a wrong flame shape to make it fit a firebox is not always inexpensive and easy. If you are lucky, you make adjustments to the air-handling parts in the gun tube of a burner designed to be capable of giving flames of different shapes, and you switch to a nozzle of different spray angle. Tough jobs involve switching the air-handling parts in the gun tubes of burners; you use different air-handling parts capable of producing the flame shapes the fireboxes need.

On certain headache jobs having flame shapes that don't fit firebox shapes at all, you can look forward

only to selling new fireboxes designed for the flame shapes the burners persist in producing. Or you can look forward to selling new burners capable of producing flames to fit the only firebox shapes suitable for the particular furnaces and boilers.

Step 3—Condition of Firebox

Poorly designed, cheap fireboxes are the gripe of many servicemen who complain the burners they take care of won't produce clean, efficient flames —many servicemen write FUELOIL & OIL HEAT saying they just can't adjust burners to produce clean, bright flames that don't deposit soot on direct and indirect heating surfaces. Finding a cheapest-of-all, highly inefficient firebox when you check over a burner, your only course is to recommend that the owner replace it.

Certain burner dealers charge $50 to $60 to replace worst fireboxes by the best that can be built. They include excellent tune-up and check-up work, and often produce fuel savings of 25% to 35%. Good work of this type produces excellent investments for burner owners.

Encountering an installation which has a firebox excellent except that it has deteriorated during years of use, a serviceman should be prepared to make minor firebox repairs, to do point-up work that retards further firebox deterioration.

Step 4—Atomizing Nozzle

A pressure burner can produce a fire only as good as the atomizing nozzle in the burner. That's why exacting burner experts place greatest emphasis on the nozzles they use in their service work—on the make, spray angle, spray pattern, and gph rate of each nozzle they install.

In one sense, the whole burner backs up the nozzle, giving it the oil pressure it needs, and the correct pattern and amount of combustion air to permit the nozzle to perform at its best.

For all of their vast importance, atomizing nozzles used in pressure burners are exceedingly inexpensive. Hence you can't go wrong in replacing nozzles when you make once-a-year yearly check-ups. The labor cost of fussing with an old, dirty nozzle is greater than the cost of replacing it with a spic-and-span, new, high-quality nozzle.

Step 5—Atomizing Pressure

Especially if you are working on a pressure burner that's been worked on by other servicemen, you should use a pressure gage to check the nozzle pressure. Otherwise you may be banking on the usual 100 lbs. standard atomizing pressure, whereas the fuel unit may be set for pressure as low as 60 lbs. or as high as 150 lbs. Switching to a nozzle of different gph rating can cause a fuel unit to develop appreciably lower or higher pressure.

Step 6—Spark Points

The electrodes or spark points of a gun-type burner need the best attention you can give them. Their tips must be clear of the oil spray (clear by ¼" to ½" is correct for many burners, though I know of one burner that's truly an oddity in that its tips are clear of the oil spray by a full one inch).

Newcomers to servicing burners should be taught that no service step is more important than adjusting properly the electrodes or spark points. Many burner manufacturers, realizing the terrific importance of ignition that's prompt, dependable, and foolproof, issue truly excellent instructions on setting the spark points of their burners. The spark gap for most pressure burners is 3/16", although a ⅛" gap setting sometimes is recommended. As has been mentioned, usually the tips should be clear of the oil spray by ¼" to ½". Adjusting the tips to be in the oil spray leads to spectacular oil-burner misbehavior at some later date, the result of carbon forming on the tips. Locating the tips too far from the oil spray can cause equally spectacular misbehavior at a time of low voltage. Tip adjustment is respected greatly by all service experts. Avoiding the forceful doings of delayed ignition depends on it.

Step 7—Oil Leaks

A serviceman has to be just plain dirty and messy to disregard any kind of oil drip or leak. All fueloil piping and all oil-handling specialties should be checked closely for signs of dripping or wetness, during a yearly check-up. Particular attention is needed for the shaft gland and shut-off valve of the burner's fuel unit.

Many servicemen keep delayed-opening nozzle-line solenoid oil valves in their cars. These end the troubles of leaking shut-off valves in pressure burners of any makes and models; also they provide the greatly advantageous features of delaying the spraying of oil from the nozzles on start-ups, and of exceptionally rapid cut-off of oil from nozzles on burner shutdowns.

Step 8—Oil Filters and Strainers

Suction-line and feed-line strainers and filters need periodic attention, of course, thus are on the mind of the serviceman making a once-a-year check-up.

Taking a chance regarding cleaning a strainer in a fuel unit may be inevitable on some jobs, for the strainers of many domestic installations need cleaning only every five to eight years (the fueloil suppliers involved have something to boast about) whereas a serviceman who has never seen the job before has no way of telling whether or not the strainer has been cleaned in recent years.

Certain servicemen seem to get by fairly well disregarding cleaning the strainers of fuel units until these show signs of plugging.

Oil filters, which give burners far greater protection than strainers, are different in their requirements. To provide best oil heat for owners of burners equipped with filters, change the filter elements yearly without fail.

Step 9—Air Leaks

Air leaks permit basement air to enter a furnace or boiler where it shouldn't, chill the flame, and so reduce efficiency. To promote high efficiency and to minimize fuel consumption, locate air leaks and seal them. Find them by applying a candle flame to furnace and boiler cracks and crevices with the burner running and its draft regulator blocked in its maximum-draft position. Check especially the base of the boiler or furnace, the gun-tube opening, the firing door or flame-observation door, the flue clean-out doors, and the joints of sectional

boilers and furnaces. Furnace cement usually is used to seal air leaks.

Locations of leaks often are shown by soot marks, the result of products of combustion escaping through the leaks during cold starts when the chimney draft is low.

Step 10—Draft Regulator

Many jobs need only the lowest smokepipe draft for which their draft regulators can be adjusted. With the burner running, set the draft regulator for its minimum draft. Keep the firing door or flame observation door open about ⅛", perhaps blocking it open using a nail or a piece of wire. Hold a match flame near the door crack. If the flame is sucked into the crack, probably no higher draft is needed.

Aim to use the minimum smokepipe draft that avoids the troubles of insufficient draft. The troubles of insufficient draft include soot and odors in the equipment room, escape of products of combustion through air leaks in the furnace or boiler, and on some jobs flame pulsation during starting —or during starting and normal running.

Step 11—Air Adjustment

Open the air damper of a burner too wide, and you waste fueloil by reducing the burner's combustion efficiency. A flame that looks small, skimpy, and white is a sure sign that the burner's air damper is open too wide, giving the flame far too much air.

Close the burner's air damper too far, and you make the flame dark-red and smoky.

Correct setting of the air damper on the burner depends, then, on closing the damper so far that closing it appreciably farther will bring on smoke and soot trouble. A burner's air damper is open too far (fueloil is wasted as the result) if the damper can be closed a bit without bringing on smoke and soot trouble.

No smoke should come from the top of the chimney with the burner running normally. When the burner starts with its firebox cold, a trace of smoke may come from the top of the chimney for the first half minute or so of burner operation.

Step 12—Chimney and Smokepipe

Smokepipes need replacing; the serviceman's responsibility includes noting the need for replacement and doing something about it. For safety, the smokepipe should be gas-tight, mechanically rigid, and well put together and supported so that it won't come down should the burner's ignition be delayed a few seconds.

Chimneys also need servicemen's checking. Conversion jobs that once used coal sometimes give trouble on this score. A year or more after the oilburner is installed, an old chimney that served a coal fire may tend to "shed." Sheets of scale loosen and drop, resulting in intolerably poor draft that the serviceman can't help but notice when he tries adjusting the burner and its draft regulator.

Every serviceman should be ready to remove a smokepipe from a chimney giving insufficient draft trouble, hold a mirror in the base of the chimney, and thus examine its innards for plugging.

Step 13—Flue Cleaning

Flue cleaning is needed for most jobs once a year or so, for some is needed twice a year, and for a few can be avoided for up to three or four years at a time. The serviceman's duties, on jobs he gives once-a-year attention, include ascertaining how often a particular installation needs flue cleaning, and making suitable recommendations to the owner regarding this.

In many service organizations a special crew armed with a vacuum cleaner takes care of flue-cleaning jobs.

Step 14—Bearing Lubrication

Underlubrication and overlubrication of motor bearings both lead to trouble and expense, thus both should be avoided. If neither you nor the owner will oil motor bearings that need periodic oiling, underlubrication with resultant breakdowns will be the result.

But at the other extreme there's the possibility of your oiling the motor bearings properly, and the owner's adding heartily to this. Oilsoaked, brokendown motors have been the result of such joint but unwise efforts.

As service expert, work out a method for lubricating properly all the bearings that need lubrication on each particular installation. You tend to this chore, or arrange for properly instructed burner owners to tend to it.

Step 15—Limit Controls

High-limit controls provide safety, so should be checked yearly to make certain of dependable operation. Inspect all limit controls of every installation once-a-year; make certain they are adjusted properly.

Step 16—Low-Water Controls

Steam boilers need the special protection provided by low-water controls as the minimum; and for fully automatic operation need water feeders in addition. The serviceman's duties include strenuous recommendations that these steam-boiler specialties be installed on installations that lack them.

Step 17—Flue Baffles

Articles have been written on flue-baffle arrangements that reduce fuel bills from 20% to 40%. Be on the lookout for boilers and furnaces designed for coal, and which need only excellent baffling to work at splendidly high efficiencies.

Step 18—Safety Control Panel

Don't fail to use a watch with a second hand to check on the length of the "try for ignition period" or "safety timing" of the oilburner safety control panel. The standard timing is 90 seconds; for just one make of control panel, the timing is 120 seconds.

Remove the stack control panel from the smokepipe, on a job arranged in the usual fashion, start the burner, and find out how many seconds go by before the panel "locks out on safety" and stops the burner.

There's much more than this to ascertaining that the safety control panel of an installation is working as it should; obtain instructions from the manufacturers of the controls used on the installations you service, and follow these instructions to the letter.

Step 19—Fuse Protection

Check on this, and you'll find out that the matter of proper fusing and

overload protection for oilheating motors is not taken care of by anyone, if you don't take care of it.

Step 20—Heating Plant in Overall

Periodic checking on the entire heating system is needed for maximum comfort, safety, and fuel economy. To handle this responsibility, become an expert at the types of heating plants most popular in your customers' homes.

Different types of heating plants need different kinds of yearly attention. Warm-air plants of the forced-circulation type, for example, need attention to air filters, balancing of dampers, motor-blower units, and humidifiers.

Forced-hot-water heating plants need attention to pressure regulating or feeder valves, relief valves, expansion tanks, air-ridding of radiators, hot-water circulators, etc. In certain cases treatment of boiler water is an important factor.

Steam heating systems must have proper attention for their all-important air-venting specialties, for both fuel economy and comfort in the rooms depend on these. Chemical treatment of boiler water in steam boilers is even more important than the treatment of boiler water in hot-water type heating boilers.

Then there's the big item of providing summer-winter hot water properly through the use of tank-type and tankless water heaters—and this item also needs the know-how of a serviceman making a once-a-year check-up and tune-up.

Go through the preceding twenty steps, and you give a burner a thoroughly good yearly check-up and tune-up—without the benefit of using combustion testing instruments.

A complete set of combustion testing instruments includes, of course, (1) a smoke-checking instrument, (2) a CO_2 analyzer, (3) a stack thermometer, and (4) a draft gage.

The use of instruments does save oil—vast amounts of oil.

To start out, when you fail to use a smoke-checking instrument, you can adjust a flame to be only roughly on the verge of smoking. Peering into a firing door or flame observation port gives you only a rough idea of whether or not the flame is threatening to produce smoke. Eyeing the top of a chimney, different experts argue about whether or not a trace of smoke comes from it. A bit of wind can turn a smoking chimney into one that doesn't show a trace of smoke.

On the matter of checking CO_2: True, a job properly adjusted with respect to smoke reading may show 5% or 12% CO_2. But without the CO_2 analyzer, you don't know if the CO_2 is 5% or 12%.

Learning the CO_2 is 5% while the smoke reading is correct, you can concentrate on niceties to arrive at higher CO_2—on the niceties covered in Step 2 of this article, having to do with the flame shape fitting the firebox shape; and on niceties of trying different nozzles of the same gph rate, but of different spray patterns and spray angles.

Use of the CO_2 tester, on a job that's excellent except for its low CO_2 reading, often leads a service expert to go to work and improve the firebox. He may use easily-cut light-weight insulating firebox to shorten an overly long firebox or to add a corbel or step-in effect to the rear wall of a plain firebox.

Having *a Shell-head burner and a firebox carefully built of insulating firebrick, this installation is geared to high CO_2 readings and (thanks to design and size of the boiler) to uncommonly low stack temperatures. Here the burner expert is adding a corbel or step-in feature to the firebox wall. Niceties of this type, and of using the proper nozzle and fitting the flame carefully to the shape of the firebox, are included in good check-up and tune-up work.*

The stack thermometer gives valuable information that can't be gained without it. You should know if your pet installation produces a smokepipe temperature of 425°F. or 650°F. or 800°F.

Highly effective flue baffles, such as the "heat rakes" described several times in FUELOIL & OIL HEAT, have reduced high stack temperatures by as much as 500°F.

In addition to knowing the overfire draft has been adjusted to be at about the proper level, an expert wants to know its value—which can be ascertained only through the use of a draft gage.

Studying the operation of a particular furnace or boiler, an expert also wants to know its draft-drop (the difference between its overfire draft and its smoke-outlet draft). That highly significant figure can be ascertained only by applying a draft gage to the job.

The draft gage can also tell you the maximum draft a chimney can develop—a figure that's important compared to the draft the chimney must develop for the oilburner to operate properly.

Oilburners can be adjusted without the help of instruments, just as automobiles can be adjusted roughly, without scientific bases or checking of any kind.

But when you don't use instruments in adjusting a burner, you are like an automobile mechanic who tries to adjust a racing car for higher speed—then fails to make tests to find out if the car's maximum speed is lower or higher than it was before he started his efforts.

If you don't use combustion testing instruments, you are like an automobile mechanic who tries to adjust a car to go additional miles per gallon—but who fails to make tests that ascertain whether his efforts made the car more or less economical in its use of gasoline.

You CAN adjust oilburners without the help of combustion testing instruments. But if you do, you put yourself in an indefensible position.

Some Builders feature Heating

Bowman of Portland has built brand Acceptance by cooperative Activities

Another Example at Eugene

While visiting with Henry Auld, of Automatic Heat, Inc., down at Eugene, Ore., we got an implication similar to that in this article. Auld is president of the Oil Heat Institute of Oregon.

Just recently builders in that area have been asking him to quote on their heating, a thing he had stopped some years ago. They tell him that while they don't like to pay more, they do know that he stands back of the stuff his men put in, and he keeps the buyers satisfied . . . which the cheapest shops never seem to do.

Featuring oilheating *by brand name is this Portland suburban builder as Bowman and Wiederhold look on. Although this has happened before, it is quite rare, but there are good indications that better quality oilheating is returning to the new home market.*

WITH THE NEW HOME MARKET becoming progressively more important to the oilheating industry it is encouraging to find increasing evidence of development builders giving good heating its proper place.

It has been a complaint of our industry that many operative builders had too little interest in really good plants but centered their buying on price alone. Of course, home building for sale is a highly competitive game and when market conditions call for a three bedroom two-bath house under $10,000, there's not much room for anything but the cheapest.

This is the story of a heating company that sells four to five hundred complete jobs a year to builders that can operate above the lowest price range. The company is Bowman Heating Co. of Portland, Oregon, headed by Lin Bowman, who has been at it quite a few years.

He doesn't go after the very largest builders, but rather those doing from 25 to 200 homes a year and selling in a range from $13-17,000. He doesn't sell these jobs at retail prices by any means, but he does sell them Oil-O-Matic units, low pressure type, at a fair differential above the cheapest equipment.

Not only that, but he finds these builders willing to put selling emphasis on the brand of heating by tying it into their advertising. You'll notice this in the picture of the large sign at the Burnside Park development.

Bowman was a combination oil and burner dealer some years ago, dropped the oil side of it when his supplier pulled completely out of the market. Now he has gone back into oil, build-

Showroom and sales office *in the heart of the business district. Here we see Lin Bowman, left, and builder salesman William Wiederhold sitting there to personalize the picture. Actually they're looking at Oil-O-Matic literature but it probably isn't new to them.*

Operations building *contains sheet metal shop, garage and general office. Bowman favors a white oil truck with gold lettering. The driver also wears white coveralls. Obviously oil heat is clean.*

ing accounts through his oilheating sales. He sells Standard of California product.

He has always continued his burner service, now through a subsidiary company, Heating Service, Inc., in which he holds a stock majority and former Bowman servicemen hold the balance.

An item of special interest in the Portland builder situation has been an active cooperation with FHA and VA to improve the quality of heating installations generally. This has been handled through the Portland Warm Air Heating and Air Conditioning Association of which Donald M. Keefer is president, and Bowman has been active in the development of a new code of practice. Its primary purposes are to require builders to give the agencies full detail on the heating jobs they plan to use, and to guide inspectors in their check-ups of the finished installations. The new requirements became effective in December.

FEDERAL HOUSING ADMINISTRATION

November 7, 1955

Mr. Donald M. Keefer
President
Portland Warm Air Heating and
Air Conditioning Assn., Inc.
4100 S. W. Barbur Boulevard
Portland 1, Oregon

Dear Mr. Keefer:

May I take this opportunity of expressing my appreciation to you and the other members of the FHA Committee of the Portland Warm Air Heating and Air Conditioning Association for your whole-hearted cooperation and suggestions, which have resulted in changes in our procedures designed to improve our service and assure the installation of warm air heating systems which are safe, efficient, and economical in operation.

We feel that this joint effort on the part of your Association and this Administration will result in better heating values for the home buying public.

Very truly yours,

Director

Reproduction *of letter from the Portland FHA Director to the local warm air heating and airconditioning chapter, thanking the members for their "cooperation and suggestions, which have resulted in changes in our procedures designed to improve our service and assure that the installation of warm air heating systems which are safe, efficient and economical in operation." The recommendations appear in the box to the right.*

Closer Check on heating Quality

These recommendations of the Portland Warm Air Heating Association have been adopted by FHA *and by* VA *as information to be submitted by builders in getting approval of heating systems in new homes.*

EQUIPMENT:
- *Manufacturers name; model number*
- *Btu available; cfm available at static pressure as per manufacturers specifications*

REGISTERS AND GRILLES:
- *Manufacturers name; model number; size*
- *Cfm required at each register and grille and face velocity shown in manufacturer's catalog.*

DUCT WORK LAYOUT:
- *Single line drawing showing the following information:*
  - *Static pressure system designed for both warm air and return air*
  - *Btu per room required*
  - *Feet per minute velocity in trunks; size of trunks and branches*
  - *Weight or gauge of metal*
  - *Duct material—galvanized, aluminum, tin, etc.*
  - *Location of balancing dampers in register or duct*
  - *Detail type of take-off fitting, plenum to trunk and trunk to branches*
  - *Size and gauge of oil tank*
  - *Location of thermostat*

CHECK LIST (for use of inspectors to determine compliance with layout and specifications).
- *Check for:*
  - *General workmanlike appearance*
  - *Equipment same as specified*
  - *Ducts for size shown on layout*
  - *Dampers shown on layout*
  - *Clearances for* UL *label or standard clearances required on non-labelel units*
  - *Materials used for ducts*
  - *Feet per minute velocity at registers and grilles*
  - *Proper adjustment—clean fire, quiet operation, etc.*
  - *Take-offs and streamlining of system per layout*
  - *Smoke pipe wall protection*
  - *Commercial Standards installers certificate posted at furnace*
- *Installers certificate to show:*
  - *CO_2 at flue connection*
  - *Draft at breeching, inches H_2O*
  - *Flue gas temperature*
  - *Firing rate*
  - *Smoke meter reading*
  - *Installers name, address, phone*

Electricity challenges Fueloil

The Number of Homes using Electricity for Heating continues to grow steadily

by
A. J. Becker*

YOU MAY WELL THINK it strange that the Fuel-Oil Committee of the American Petroleum Institute should elect to present a paper on "electric heating." You probably subscribe to the general belief that electric heating, on a large scale, is practical only in those limited areas which enjoy exceptionally low electric rates, such as the Tennessee Valley and a few other localities. That, in general, has been true up to this time.

However, something new of major importance has been added. That something new is the tremendous increase in the use of summer airconditioning equipment, which has created a serious problem for utility companies in many markets, and is destined shortly to present a similar problem through much of the country. The result can be much lower electric rates for heating —low enough, in fact, to be a serious threat to oilheating markets.

An electric utility, to justify its investment in generating plants and distribution system, must have a reasonably balanced load throughout the year. If it is called upon to supply twice as much electric energy during three months of the summer as it can sell during the other nine months of the year, it becomes difficult to show a satisfactory return on invested capital.

To meet such a situation it has only two alternatives: either obtain higher rates generally, which tend to discourage the use of power-consuming devices, or build up a winter load to equalize the summer peak. The latter, of course, offers a far more desirable solution.

*President, Becker Marsden Co., St. Louis, Mo.

Almost the only winter load available which would meet the issue is a house-heating load. A utility cannot expect to acquire such a load, unless it offers rates which bring heating costs within reach of the average homeowner. A kilowatt-hour rate for house heating lower than the general rates would thus have to be offered. This is exactly the development which is now taking place in some markets, and will unquestionably expand to others.

As an indication of what may happen in any market when electric heating rates become attractive, let's take a look at a highly developed electric heating market in the Tennessee Valley. In Chattanooga the house-heating rate is ¾¢ per kilowatt-hour. For comparison, this rate in most larger cities ranges from 1½¢ to 3¢ per kilowatt-hour. Fueloil in Chattanooga is 14¢ a gallon.

At those fuel costs, assuming an efficient installation for electric heating and an average efficiency for oilheating, costs for electric heat would be 24% higher than for oil heat. The Chattanooga utility, however, insists upon 6 in. of insulation in roofs, 3½ in. in walls, and 2 in. under floors. After the homeowner has spent the money to accomplish that, the claim is made that heating costs with the two fuels are just about equal.

At best, then, with equal insulation, electric heat in Chattanooga costs at least 15% more than oil heat. The facts of the case are, however, that 29% of the homes in Chattanooga are heated with electricity; that 90% of the new homes are being so equipped. Chattanooga also has 250 commercial and industrial electric heating installations.

This market is a good example that electric heating grows in proportion to the pressure put behind it by the power company. The average of all residential consumers in Chattanooga shows a usage of 8,143 kilowatt-hours per year.

In Memphis, where electric heating has been frowned upon by the utility as being too expensive for the average consumer, this figure is only 2,435 kilowatt-hours. In Nashville, where utility pressure on builders has been heavy, 80% of all new homes are being electrically heated. The Knoxville, Tenn., utility promotes gas for heating, but sells electricity for heating 85% of the new homes.

The over-all Tennessee Valley picture sums up to the following: in 1944, 950 electric heated homes; in 1954, 100,000 homes so heated—this in spite of the fact that the cost of electric heating is in many spots 40% higher than oilheating. Growth has been stimulated by good promotion by power companies and by advancing prices of other fuels.

Now let's take a look at a market which does not enjoy the blessings of the government subsidized rates of the Tennessee Valley. As those of you who have been there in the summer know, Tulsa, Okla., is a city which really needs summer cooling. In recent years it has gone hog-wild in acquiring it—to such a degree, in fact, that the Public-Service Company of Oklahoma there has launched a $40,000,000 expansion program to add 400,000 kilowatts of new generating capacity. Its summer monthly residential peak demand increased from 187 million kilowatt-hours in 1953 to 282 million kilowatt-hours in 1954—increase 51%. At the same time its winter monthly average demand increased from 130 million kilowatt-hours in 1953 to only 140 million kilowatt-hours in 1954—an increase of less than 8%.

It has a problem for which there appears only one answer—an offsetting

The accompanying discussion is one of three presented at a meeting of the Division of Marketing during the 35th annual meeting of the American Petroleum Institute, held in San Francisco on November 14. The other two were published in the December issue. They were:

"Opportunities in the distillate Market," by B. L. Ray, vice-president in charge of marketing, Esso Standard Oil Co., New York, and

"Banning of one-fuel Chimneys and Flues," prepared by J. A. Collins, manager, Oilheating Division, Frontier Oil Refining Co., Buffalo.

winter residential heating load to balance its summer demands. It has been driving hard to acquire such a load with a 2½¢ kilowatt-hour rate. On that basis, customer bills are too heavy, even with a heating load of only 3,050 degree-days. Natural gas offered at 40¢ per 1,000 cu. ft. is tough competition.

This utility has petitioned for a heating rate which drops to a minimum of 1¢ per kilowatt-hour, and under which it is estimated that the average heating rate will be 1.1¢ per kilowatt-hour. At those rates gas and oil have a decided cost advantage; but, with a strong publicity and merchandising program, this utility will build a sizable winter load if fueloil distributors merely sit back and let it take over part of the market.

Acceptance in North

Has electric heating made progress in the more northern states? Yes, in the state of Indiana there are some 1,200 electrically-heated homes. Some 200 of these are in Indianapolis, where they have a 1.7¢ heating rate. The greatest concentration of such installations is around Fort Wayne, where the heating rate is 1½¢ per kilowatt-hour. Canton, Ohio, has 400 electrically heated homes on a 1½¢ rate. In Three Rivers, Quebec, where the heating load is 8,073 degree-days, electric wall-panel heating has been installed in 38 double duplex units comprising 150 dwellings. The power rate there is 1.6¢ per kilowatt-hour.

In St. Louis the power company saw the possibilities in a summer-cooling load 20 years ago, and actually pressured refrigeration manufacturers to produce equipment which could be used for space cooling. Today St. Louis is one of the most completely summer airconditioned cities in the country. The total residential market, however, has barely been scratched.

For several years Union Electric Company there has succeeded in balancing its load to such a degree that its peaks in August and in December always have been beaten by the succeeding peak. It has a house-heating rate of 1¾¢ per kilowatt-hour. The company is strongly promoting electric heating, and sees no need at this time to request a special winter-heating rate to balance its load.

When summer cooling has progressed to a point where a larger percentage of homes is completely cooled, it is probable that this balance will be destroyed. At present the company is fortunate in having a heavy winter commercial demand which balances its also heavy summer airconditioning load. Before summer cooling came into the picture, the summer demand was only about half the winter load.

This company supplies the electric energy for heating 650 homes in St. Louis and the surrounding suburban district. Cost is three times that of heating with oil.

In Seattle and Tacoma, in the state of Washington, where the electric services are municipally-operated, they have a peculiar rate structure. Seattle has a minimum bill of $5 a month. The minimum bill provides up to 480 kilowatt-hours. Therefore, the homeowner who uses this quantity for lighting, cooking, water heating, and appliances pays slightly less than 1¢ per kilowatt-hour for this service. The next stage of approximately 1,000 kilowatt-hours is at 7/10¢ per kilowatt-hour. It is likely that many smaller homes, electrically-heated, would come within the range of this rate during most of the winter. The rate above 1,480 kilowatt-hours jumps up to 1.8¢ per kilowatt-hour. The 1.8¢ rate is looked upon as a penalty rate, and its purpose is to discourage large fluctuations in demand on a year-round basis.

Penalty Rate

It will be apparent that the penalty rate discourages installation of electric heat, particularly in the larger residences. It is also apparent that, if this area required summer cooling, its heavy summer demand would hold down the rate for winter heating. Seattle, then—with heating costs in some of the smaller homes as low as that in Chattanooga, Tenn., and in the larger homes probably considerably higher—has, nevertheless, some 5,000 electrically heated homes.

Tacoma's rate structure is similar to the Seattle rates. The consumer pays $5 for the first 430 kilowatt-hours, and then 6/10¢ per kilowatt-hour until his monthly consumption exceeds 1¾ times the monthly average of his summer load. Above that quantity he pays a penalty rate of 1.2¢ per kilowatt-hour. At these rates, which are slightly lower than the Seattle rates, Tacoma has some 3,000 electrically heated homes.

In Grays Harbor County, in Washington, the electric heating rate is ½¢ per kilowatt-hour for 900 kilowatt-hours and ¾¢ above that quantity. Electric heat here is a serious competitor. These rates are below those of the Tennessee Valley, and fueloil distributors find electric heating slightly less expensive than oilfiring in a space heater, the predominant method of heating in the area.

Don't want Load

In general, in the state of Washington, most power companies do not consider heating a good load because it creates a high winter peak for which there is no offsetting summer load. Their problem is apparently exactly the opposite of that in such areas as Tulsa, Okla. In spite of this attitude, low power rates there are building an electric heating load.

A recent survey in Seattle by the Oil Heat Institute of Washington to determine attitudes of homeowners toward the various fuels discloses some interesting information. Of the 500 homeowners interviewed, 90% heat with oil, and almost 80% have central-heating plants. More than 20% of these people indicated a preference for electric heat, notwithstanding the fact that there has been no pressure campaign to sell electric heating in Seattle.

The principal disadvantage of oil heat cited by these 500 homeowners was that it is dirty and leaves an oily scum, whereas they cited cleanliness as the principal advantage of gas and electric heating.

A similar survey conducted in St. Louis in 1949 brought out those very same consumer beliefs. It would seem apparent that the oil industry needs to bring home forcibly to the public the truth about the cleanliness of oilheating, through general and extensive advertising.

In the state of Oregon the Oil Heat Institute of Oregon recently completed

a survey in 11 principal market areas in western Oregon. In 4 of these markets electric heat serves 22% to 32% of the single-family dwellings. In 4 others it has 7 to 9½% of the same market. Portland is predominantly oil-heated, and its citizens indicated a strong preference for that fuel.

In a number of the other markets where oil heat predominates, however, consumers indicated a preference for other fuels—in most cases electric heating.

The Oregon survey further points out that electricity is making inroads in every market where it has been established, and that it gains extreme loyalty, that it has been able to some extent to establish itself as a distinctive fuel, whereas oil and gas remain in consumer thinking as no different from other fuels. Heaviest inroads in Oregon have been made in the markets where low-cost power is available. These, in the main, are areas served by public-utility districts. These districts are given preferential treatment; and, as they pay no taxes, are able to offer power at low rates.

It is estimated that there are 27,000 homes in western Oregon heated with electricity. Climate in Oregon is not too different from that in Washington, and this is not likely to become a major market for summer cooling.

Joint Promotion

The Oil Heat Institutes in both Washington and Oregon, incidentally, are organizing an extensive program to sell the oil-heat idea.

Considerable progress has been made in the sale of electric heat pumps in the desert area of the southwest. Summer cooling is almost a "must" in this district; and, as winter temperatures rarely fall below 32°, these pumps are pretty much of a "natural" for these heating and cooling requirements. The heat pump, because of its relatively low initial cost, is destined to play an important part in the development of combined heating and cooling in many markets. Actually, a heat pump is nothing but a good sized refrigeration compressor (3-hp to 7-hp usually) with necessary valves and controls.

The heat pump lends itself not only to combined heating and cooling of new homes, but also fits into the furnace-replacement market for the same service. The pumps cost about $1,500 in St. Louis for a 3-hp unit to handle a 5-room house, exclusive of duct work and auxiliary heating coils.

It is apparent that electric heating becomes a competitor whenever rates are reduced to a point where costs are reasonably within the reach of the average homeowner. It becomes a serious competitor when such rates are combined with aggressive promotion by a power company. Such rates and such promotions are likely to result whenever a power company finds it necessary to acquire a sizable increase in its winter load to offset a peak summer demand. The amazing growth of summer airconditioning can rapidly create such a situation in many markets.

It would be idle for fueloil distributors, in markets where summer cooling has not as yet made serious progress, to lull themselves into a state of complacency in the belief that this will not happen to them. Commercial cooling in stores, hotels, restaurants, barber shops, beauty parlors, and the like is now virtually a "must" in a large part of the country. Offices and public buildings are not far behind. People soon learn how much comfort this affords, and shortly experiment with a window cooling unit in a master bedroom. A year or two later they similarly equip additional bedrooms and, finally, the living room. The American public buys comfort; and, in any area where it learns about the comforts to be had from summer cooling, it will insist upon having them.

So electric heat is a coming competitor! The present status of electric heating is probably not too different from gas heating 20 to 30 years ago. Then gas was used extensively for heating only in the districts close to the oil fields where natural gas at fairly low cost was available. There were, even then, some pioneers in most metropolitan markets who paid quite a premium to heat their homes with manufactured gas. But natural-gas pipelines were carried into many metropolitan markets, and this development has progressed until we have a serious competitor today.

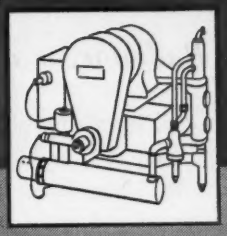
Had the petroleum industry as a whole recognized this threat to its markets as it was developing, and had it pooled its resources to combat the efforts of the intruder, gas heating would not have made the progress in many markets that it has today. Perhaps the industry can take a page from its own book and not repeat its errors of the past as electric heat develops as a competitor.

United Program needed

The job of fighting gas competition was left largely to the distributors of fueloil and oilheating equipment. This segment of the industry alone was in no position to match the promotional programs launched by utility companies distributing gas. In some markets these distributors merely bowed to the inevitable. In other markets distributors were made of sterner stuff, pooled their efforts and their dollars, put up a fight, and have come through with flying colors. In some instances there are more oilheated homes in such markets now than there were when gas came into the picture. Unfortunately there are not nearly so many oilburners as there would have been had the industry as a whole done the promotional job which the market deserved.

Fortunately the same promotional effort which is still needed to meet gas competition will serve also to meet the issue of electric heating. The program, which is now in the making to sell the oilheating idea vigorously and on a scale commensurate with the needs of markets, is the most encouraging development to fueloil distributors which has occurred in the past 20 years. If this program is carried through in the manner which the marketing segment of the industry hopes it will be, we shall have gone a long way in meeting effectively competition from any other fuel.

After all, the oilheating industry grew pretty much like Topsy; and the petroleum industry, which has benefited most from its development, did comparatively little to stimulate and encourage its growth. At long last, when another industry threatens to steal our market, we are awake to what we really have, and are about to put up a fight to keep it.



COMMERCIAL & INDUSTRIAL oilburning

SECTION

fueloil & oil heat

NEW YORK

COMMERCIAL & INDUSTRIAL oilburning

To sell commercial Jobs, know your steam Heat!

Steam Distribution and Heat for every Radiator, is a Problem aside from Oilfiring

by
Jean L. Dupuis

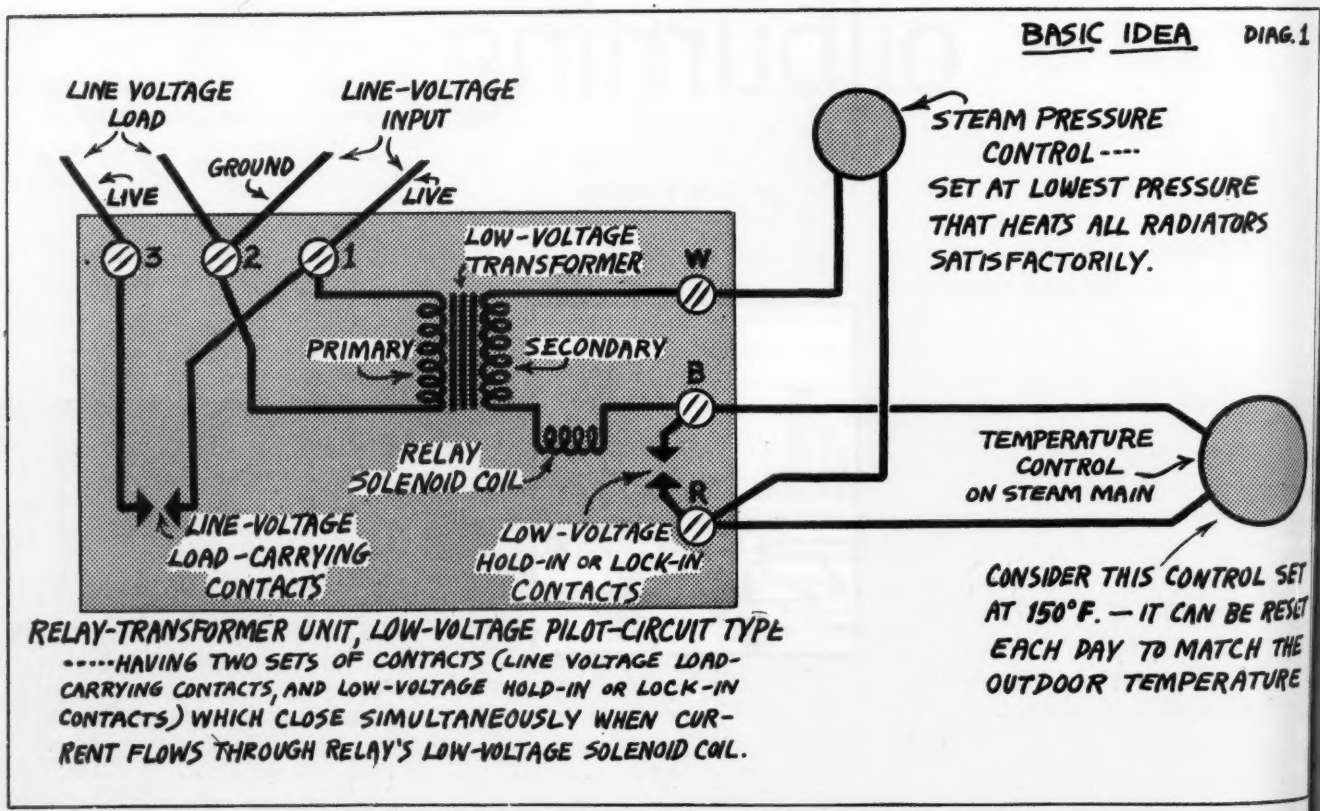
YOU WILL WIND UP botching the job, if you confine your operations to the boiler room when you convert a big old steam heating plant from old-fashioned coal firing to modern oilfiring. A Sparky story that started on p. 68 of the December issue made that point clear. It dealt with a two-pipe steam system having a 200-hp low-pressure steam boiler, and plagued by hundreds of defective thermostatic radiator traps that did not close when filled with live steam.

When you encounter a big old steam heating plant, your first problem is to fire its boiler efficiently at the proper gph rate. Your second problem, distinctly different from your first problem, is to arrange for proper distribution of steam throughout the system. Wind up solving the second problem successfully, and every radiator will heat properly when your oilburner runs intermittently for but a few minutes out of every hour.

Disregard the second problem and you certainly will wind up with complaints about underheated rooms, particularly during mildly cold weather. You'll wind up also with oversize fuel bills, and with an oilburner user properly dissatisfied with the oilheating you provided for him.

"Your December article on big steam heating plants provided me with timely and badly needed help," a New York oilburner dealer wrote in his letter. "Thoroughly familiar with domestic heating jobs, last fall I started handling a gun-type commercial burner that uses No. 5 oil.

"First of these I sold went into a combination office-factory building to fire the big steam-heat boiler at 22 gph. I just fired the boiler properly, fired


BASIC IDEA
DIAG. 1
LINE VOLTAGE LOAD
LINE-VOLTAGE INPUT
GROUND
LIVE
LIVE
3
2
1
LOW-VOLTAGE TRANSFORMER
W
PRIMARY
SECONDARY
B
RELAY SOLENOID COIL
R
LINE-VOLTAGE LOAD-CARRYING CONTACTS
LOW-VOLTAGE HOLD-IN OR LOCK-IN CONTACTS
STEAM PRESSURE CONTROL ---- SET AT LOWEST PRESSURE THAT HEATS ALL RADIATORS SATISFACTORILY.
TEMPERATURE CONTROL ON STEAM MAIN
CONSIDER THIS CONTROL SET AT 150°F. — IT CAN BE RESET EACH DAY TO MATCH THE OUTDOOR TEMPERATURE
RELAY-TRANSFORMER UNIT, LOW-VOLTAGE PILOT-CIRCUIT TYPE ····HAVING TWO SETS OF CONTACTS (LINE VOLTAGE LOAD-CARRYING CONTACTS, AND LOW-VOLTAGE HOLD-IN OR LOCK-IN CONTACTS) WHICH CLOSE SIMULTANEOUSLY WHEN CURRENT FLOWS THROUGH RELAY'S LOW-VOLTAGE SOLENOID COIL.

Diag. 1—*Author uses this control set-up to find out if a new or old steam heating plant, one-pipe or two-pipe, distributes steam to all radiators properly under low steam pressure and with burner "on" for say 10 or 15 minutes, then "off" for a half hour to two hours. This reveals if the steam heating system distributes steam to radiators well enough for the system to be controlled by a modern large-building heat-control system. Another use for this control set-up is to prove a steam heating plant, not its oilburner or heat-control system, is responsible for complaints about some radiators underheating while others are overheating. When the temperature-control on the steam main snaps "on," the relay snaps in—it locks in and remains in until the circuit of the steam-pressure control opens. Important: (1) Don't fail to use a steam-pressure control that can be set to turn off the burner with only ounces of steam pressure on the boiler; use a sensitive "vapor type" steam-pressure control which can be set for maximum pressure of only about two pounds; (2) Don't fail to use an on-off to give you a record of the "on-off" cycling of the burner.*

it beautifully in fact to make it a demonstration job, and I paid no attention to the rest of the heating plant. But until your article appeared I got no satisfaction.

"One day in November, the owner of the building, the janitor in charge of the boiler room, and I got to scrapping real seriously.

"The janitor had set up my high-limit steam pressure control from the two pounds at which I'd left it, to two and one-half pounds. He said he could prove to me that certain of his radiators remained cold with only two pounds steam pressure on the boiler, but heated with two and one-half pounds pressure. I challenged him to prove that, and to my consternation he did just that.

"About two dozen important radiators remained cold when we stopped the burner after it had developed two pounds steam pressure. But these radiators got hot when we continued running the burner until the gage on the boiler showed two and one-half pounds steam pressure. I had a red face.

Firing Cycles

"Later after I'd read your article about big steam-heat plants, I went back to the job. Taking words from your article, I told the janitor and the owner that my burner was supposed to run for but eight to ten minutes out of an hour on a mildly cold day. Told them that when the burner stopped after its short run, the boiler pressure gage would not show even a quarter pound of steam pressure. Yet every radiator would have to be heated!"

That, the dealer wrote, started a new argument. The janitor of the factory said the large-building heat-control system, sold by the dealer along with the burner installation, was no good at all for this building if in mild weather it ran the oilburner but a few minutes every hour. For every radiator to heat in this factory, said the janitor, the boiler had to be fired a few hours at a time, not for eight or ten minutes at a time.

The dealer had the tough job of proving that his modern large-building heat-control system did the right thing in starting the burner about once every

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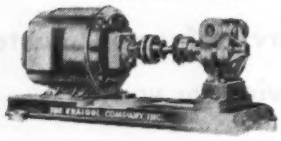
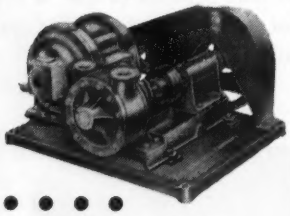


Reduction Drive for heavy oil
Ask for Bulletin No. A-1193

CLASS 50 HEAVY OIL PUMPS



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for bulk station service

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Direct Drive
For exclusive use with Light oils and Solvents
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Interchangeable Service
Both light and heavy oils—tank truck and bulk station
Ask for Bulletin No. A-1366

CLASS 80 TRI-ROL PUMPS

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295 WILLIAMS AVE., HACKENSACK, N. J.

hour during mildly cold weather, and in running the burner about eight or ten minutes at a time in such weather.

"This combination office-factory building had a one-pipe steam heating plant," the dealer's letter goes on.

"At the ends of its long steam mains were things that FUELOIL & OIL HEAT vent-valve articles have described as 'radiator vent-valves with vertical shanks.' These had the venting rates of radiator vent-valves, not of modern steam-main quick-vents designed for on-off oilfiring.

"The radiators in these buildings were equipped with vent-valves designed years ago for hand-fired coal systems—with air vent pinholes.

"All the venting specialties, on steam mains and on radiators, were at least 15 years old. The radiator vent-valves had been painted over thoroughly and often since they were installed years ago. Paint had crippled dozens of them.

"All we had to do to make this steam plant work perfectly was to vent the devil out of each of its steam mains and radiators . . . using modern venting specialties made for oilfired one-pipe steam plants. Then every radiator

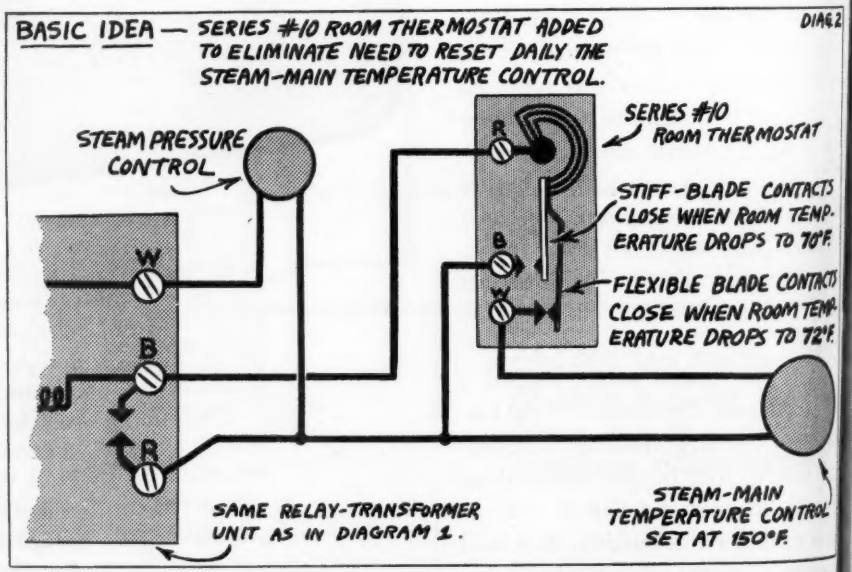
COMMERCIAL & INDUSTRIAL oilburning

heated properly when the boiler produced steam for just ten minutes.

"We gained another advantage, once the system had been renovated as far as ventiing was concerned. Venting any steam main or radiator slower or faster caused it to heat slower or faster. In a matter of seconds, we could make any radiator give more or less than its regular share of heat. So by controlling radiator venting, we could easily take care of rooms that tended to be overheated or underheated."

Providing proper steam distribution, providing proper heat for every radiator when the burner runs only ten minutes and then stays idle for about an hour, is a problem aside from properly oilfiring the boiler of a commercial steam heating plant.

A dealer faces this steam-distribution problem when he sells an oilburner, together with the heat control system it needs, for an old system never oilfired before.


BASIC IDEA — SERIES #10 ROOM THERMOSTAT ADDED TO ELIMINATE NEED TO RESET DAILY THE STEAM-MAIN TEMPERATURE CONTROL.
DIAG.2
STEAM PRESSURE CONTROL
SERIES #10 ROOM THERMOSTAT
STIFF-BLADE CONTACTS CLOSE WHEN ROOM TEMPERATURE DROPS TO 70°F.
FLEXIBLE BLADE CONTACTS CLOSE WHEN ROOM TEMPERATURE DROPS TO 72°F.
R
B
W
W
B
R
SAME RELAY-TRANSFORMER UNIT AS IN DIAGRAM 1.
STEAM-MAIN TEMPERATURE CONTROL SET AT 150°F.

Diag. 2—*Use of the Minneapolis-Honeywell Series 10 room thermostat in this control set-up eliminates the need to adjust the steam-main temperature control differently for different kinds of outside weather—whereas using the set-up in Diag. 1 this control should be set daily or oftener to match the outside temperature. This control set-up is experimental, of academic interest, and is used to bring out facts regarding the steam distribution of one-pipe and two-pipe steam heating plants. This set-up is not a substitute for a modern large-building heat control system. It is being used, however, to control the heat given by small systems fired from 3.0 to 8.0 gph—systems too small for large-building heat control systems, or whose owners are delaying in buying the complete large-building heat-control systems they should have*

He faces the same steam-distribution problem when he sells a large-building heat-control system for a steam heating boiler that's been oilfired for years, but which never had the fuel saving advantages of proper heat control.

After a modern large-building heat-control system has been put to work on an old job or a new job, often the results are poor because of poor operation of the heating plant.

What's to blame?

The owner doesn't know whether the oilburner, the heat-control system, or the heating plant should be blamed for occupants' complaints, underheated or overheated rooms, oversize oil bills, etc. You, the equipment installer, may have your doubts regarding which of the component parts of the heating system is causing the trouble.

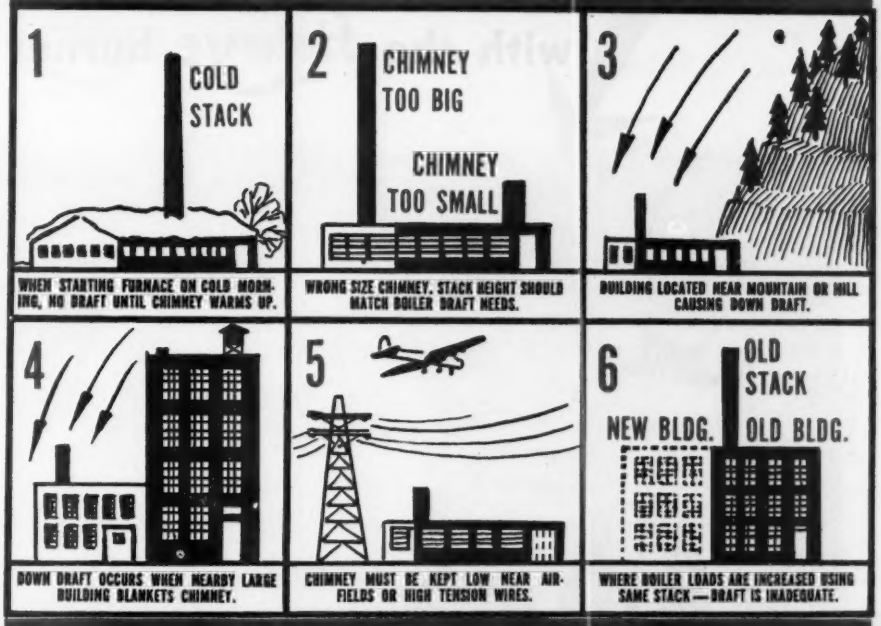
In cases of this kind, I've often used this procedure to determine if apparent poor operation of a modern large-building heat-control system should be blamed on the heat-control system itself, on the oilburner, or on poor distribution of steam by a heating system in need of modernization:

First, the oilburner is not to blame if running it continuously for two hours, starting with the boiler at about 160° F., develops some satisfactory steam pressure in the boiler. That's enough steam pressure to fill every radiator with steam; often I peg minimum satisfactory pressure at two pounds even for large systems having boiler power up to 300 to 400 hp, though judgment may call for higher pressure of up to five pounds in these extremely large systems.

If two hours of continuous burner operation raises appreciable steam pressure, you conclude the burner is not causing the trouble by producing a flame of insufficient size for the radiation load on the boiler.

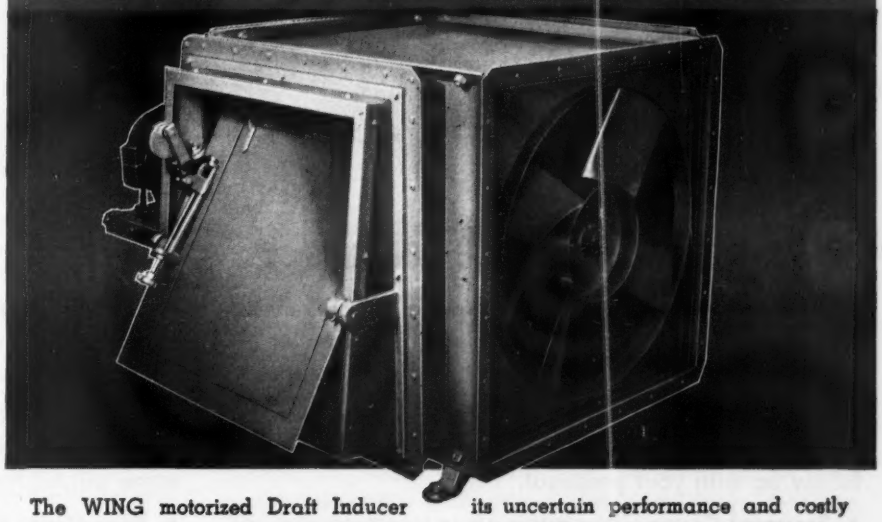
That rough idea is susceptible to refinement. Complete combustion tests should be made, of course, to make certain highly inefficient firing is not contributing to the heating trouble. Your stack temperature reading may place the blame on an undersize boiler, but usually boilers that have carried their loads nicely in the past are not found to be undersize.

HOW TO OVERCOME THESE SIX CAUSES OF POOR DRAFT



1 WHEN STARTING FURNACE ON COLD MORNING, NO DRAFT UNTIL CHIMNEY WARMS UP.
2 WRONG SIZE CHIMNEY. STACK HEIGHT SHOULD MATCH BOILER DRAFT NEEDS.
3 BUILDING LOCATED NEAR MOUNTAIN OR HILL CAUSING DOWN DRAFT.
4 DOWN DRAFT OCCURS WHEN NEARBY LARGE BUILDING BLANKETS CHIMNEY.
5 CHIMNEY MUST BE KEPT LOW NEAR AIRFIELDS OR HIGH TENSION WIRES.
6 WHERE BOILER LOADS ARE INCREASED USING SAME STACK—DRAFT IS INADEQUATE.

USE THIS WING DRAFT INDUCER



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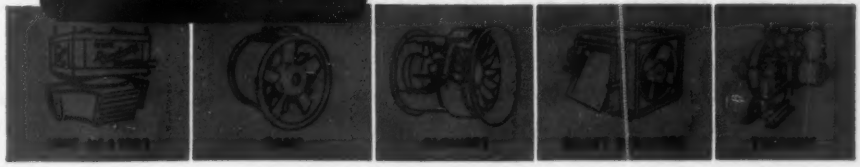
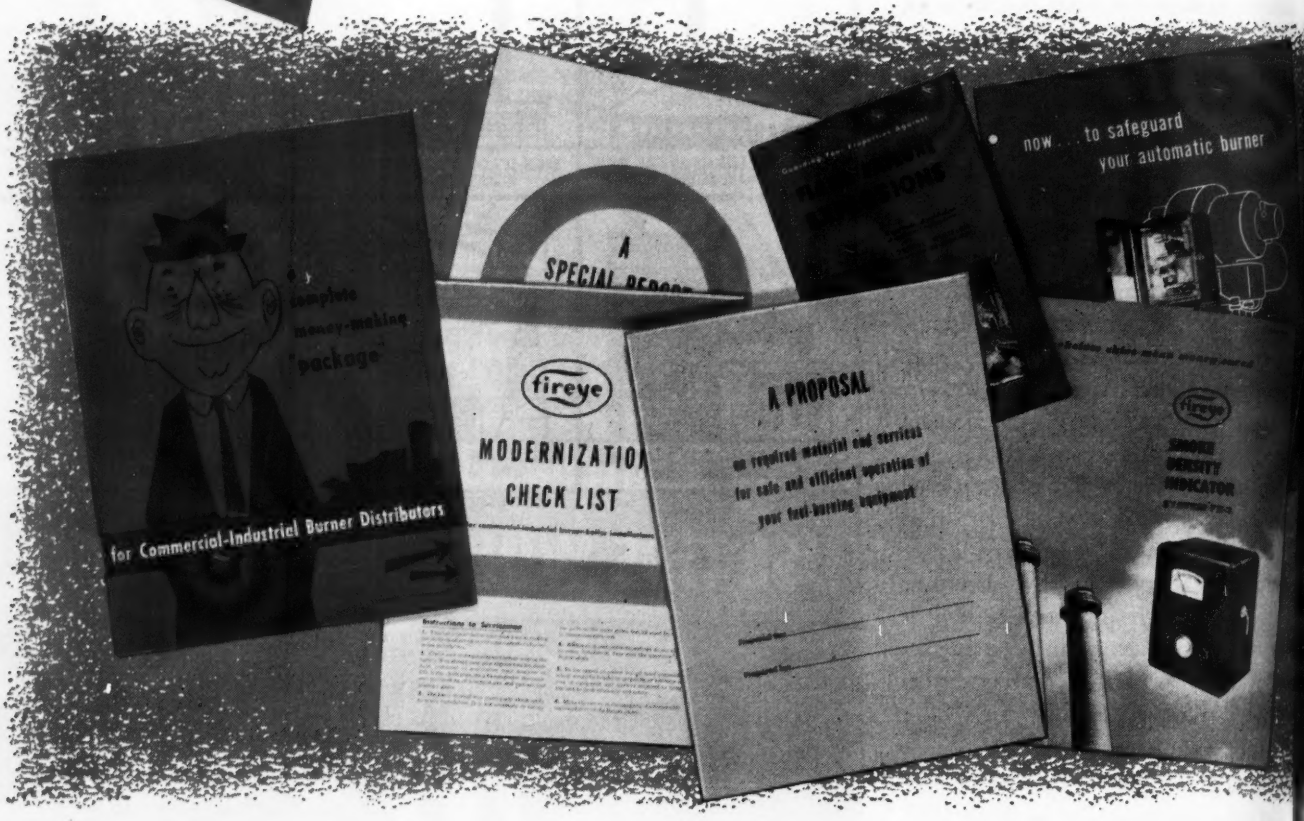


Make "slack-season" profits

with the fireye burner modernization plan



here's what the package contains . . .

- **Modernization Check List** — a 4-page comprehensive "condition survey" of your customer's burner-boiler installation, developed from the experience of experts.
- **A Special Report Form** — putting the results of the check right in the hands of the customer, for you to follow up with your proposal.
- **Proposal Cover** — to contain your recommendations to your customer, with a convenient pocket for sales literature on the items you sell.
- **Sample Sales Letters** — tested, action-producing messages that get your proposal favorable attention, and help you complete sales with the all-important follow-up.
- **Fireye Bulletins** — because when you sell modernization, chances are 4 to 1 you'll sell Fireye too. These bulletins will tell the Fireye story to your customers.
- **Your Order Form** — for as many Check Lists, Report Forms, Proposal Covers and Bulletins as you can use — FREE, by return mail.

and here's how the plan works

It's a simple, tested, effective "one-two" operation — right to the point.

1. Your servicemen make modernization surveys of all commercial-industrial oil burner units more than two or three years old. The Modernization Check List will help them do a job that is a credit to your organization. Many such installations are inadequately wired and *incomplete* by today's standards. $1000 in potential business could be uncovered *on each call* — in replacing obsolete or run-down equipment to give your customers the ultimate in efficiency and protection.

2. From the completed check list, you prepare a proposal and a cost estimate which you present in the folder we supply — along with a copy of the servicemen's findings, and sales literature for the equipment you recommend. If you can't do this in person, you have a sample sales letter to help get your service message across . . . and a follow-up letter emphasizing the need for *prompt* action if your customer wants to save money in the long run.

from Existing Installations

and these new fireye products

Fireye equipment can figure heavily in anyone's modernization plan.

For example:

Panel Control Systems for Automatic Burners . . . Fireye flame-failure protection plus complete automatic programming in a single integrated unit. Pre-wired by factory experts, these systems eliminate installation headaches, simplify performance checkout, and reduce maintenance.

Operating Controls providing automatic high- or low-limit control on changes in temperature or pressure in air, steam, water or any non-corrosive liquid or gas. Quick-acting, trouble-free, and accurate.

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Smoke Density Indicators that unfailingly warn the operating engineer *in the boiler room* of "smoky" firing — reducing fuel costs, helping to eliminate Code violations.

and that's not all!

Fireye engineers are available, nationwide, to help *your* customers with any burner-operation problem. Their experience and up-to-the-minute knowledge of Codes, adequate wiring standards, and sound operating practices is unequalled. They are the extra, priceless part of the profit-making "package" Fireye offers you. Use the FIREYE Modernization Plan . . . join the hundreds of dealers who are actively scheduling and following up *service checks* to help both their customers and themselves. Mail the coupon TODAY.

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Offers you a reservoir of information you can use profitably.

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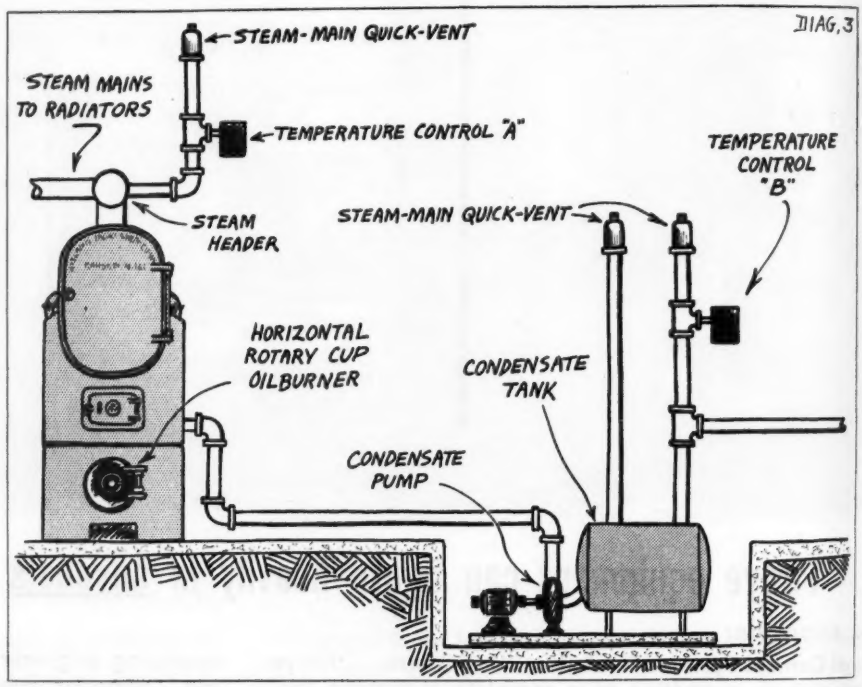
Complications and niceties of testing enter into this on some jobs, but nonetheless the first point is to make certain the burner is not causing the trouble by producing a flame of insufficient size for the radiation load.

Second, use a one-hour clock on-off device (parts from controls of old stokers can provide you with this) to run the oilburner for ten minutes, then keep it idle for 50 minutes. That tests the steam-distribution ability of the heating plant.

This point is tremendously important: Every radiator in the heating system should become slightly warm during this on-off cycling test. Plainly and simply, the heating system has important shortcomings, which must be eliminated, if during this test some radiators become extremely hot while others remain cold. The steam system that doesn't pass this test is not suitable for modern on-off oilfiring.

I've encountered many steam heating systems that to begin with could not pass this second test of running the burner 10 minutes then keeping it idle 50 minutes, but never found a system that couldn't be improved to pass it.



Diag. 3—*Rotary cup burner on this job uses No. 6 fueloil, and used to "stop on safety" at night when a usual under-the-waterline boiler temperature control was used to keep boiler at 160°F. at night when no building heat was needed. Boiler is well insulated and its tankless water heater had no load on it at night, therefore usual controls provided long "off" periods at night which permitted the long suction line to become too cold. Now temperature control "A," set at 140°F., starts and stops the burner at night. Mounted on a 2" pipe set-up as shown, this control chills more rapidly than the boiler water when the burner is idle. That results in shorter "off" periods at night, which have eliminated the burner's stopping "on safety." Because the steam-main quick-vent has a one-half inch venting opening, the first puff of steam from the boiler goes to control "A", immersion type, and stops the burner before the steam mains become hot.*

Temperature control "B" was added for a special reason. The heat-control system used in this large building causes the burner to provide steam pressure for an hour and a half every morning. Started and stopped by its pressure control during that period, the burner went through too many "on" and "off" periods, which were judged to be inefficient and troublesome. Set at 200°F., control "B" now keeps the burner idle, after each "off" period, until the steam-filled return line cools to 200°F. This control "B" provides an "enforced off period" of eight to ten minutes, each time the burner stops. It provides another advantage for one-pipe steam systems; it causes radiators to become air-charged each time the burner stops, thus causes controlled radiator venting to be effective even in coldest weather, when such radiator venting would not be effective if all radiators remained full of steam because pressure was maintained in the system continuously. Temperature control "B" could be located on a steam main some distance from the boiler instead of on a return main that fills with steam.

COMMERCIAL & INDUSTRIAL oilburning

Improvements needed for two-pipe steam systems were discussed in the steam-heat article that starts on p. 68 of the December issue of FUELOIL & OIL HEAT. One-pipe steam systems that can't pass the on-off cycling test invariably need only modern air-venting specialties for their steam mains and radiators. They need steam-main quick-vents and radiator vent-valves described by some specialists as "making all radiators heat evenly and quickly with ounces of vapor instead of pounds of steam pressure."

You naturally don't make this 10-minute "on" and 50-minute "off" test during severely cold weather, if the building has occupants you don't want to freeze. If you must make the test in winter, wait for a mildly cold day. First heat the building well by running the burner an hour or two, then put on the on-off test for four hours.

Control Equipment

Diag. 1, which accompanies this article, shows other control equipment you can use for making an on-off test of a steam heating plant. Wired as shown, the temperature control on the steam main starts the burner when the steam-main temperature drops to 150° F. Of course you can set this control lower or higher for your test.

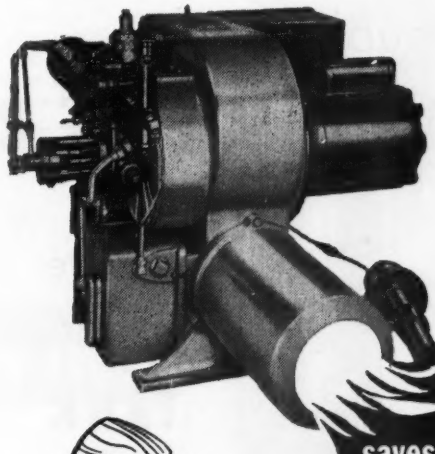
This steam-main temperature control works best located some distance from the boiler, say 20 or 30 feet from the boiler, for a distant steam main cools off more rapidly than a main close to the boiler.

Once started by the steam-main temperature control in Diag. 1, the burner runs until stopped by its steam-pressure control. Important: Make certain to use a steam-pressure control you can set to turn off the burner when the pressure in the boiler is a few ounces. Set this control for extremely low steam pressure to start out, for perhaps four ounces of steam pressure. Find out the lowest pressure that can be used, with the steam heating system modernized, to heat all radiators.

"Line Voltage Load" terminals in Diag. 1 are wired to start the burner. If the boiler provides summer-winter hot water and thus has a boiler-temperature control, wire this from terminal #1 to terminal #3 of the relay-transformer unit shown in the drawing. Then the relay in the drawing will not snap in when the burner should run only to provide hot water.

Diag. 1 provides a definite advantage for steam systems—each time the burner starts because heat is needed, a certain, definite minimum steam pressure will be developed (the steam pressure for which the pressure control is set) before the oilburner stops. Applying this advantage to certain systems, while testing them, makes certain that sufficient steam pressure will be developed to heat all the radiators during each oilburner "on" period.

Diag. 2 adds a Series 10 room thermostat to the basic idea of Diag. 1. As the caption explains, this arrangement provides "point control," extremely close regulation of the room temperature at the location of the thermostat.



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Consider that to start out, in Diag. 2, the flexible-blade contacts of the Series 10 room thermostat are closed, and the stiff-blade contacts are open. The temperature at the thermostat is between 70°F. and 72°F. Then the burner will be started by the steam-main temperature control and stopped by the steam-pressure control.

The Series 10 room thermostat should be located so near a radiator, say within 15 feet of a radiator, that the on-off cycling of the burner (just described) will tend to open the thermostat contacts when the radiators are warm, and to close the contacts as the radiators become cool. Thus the on-off cycling of the burner, caused by action of the steam-main temperature control and the steam-pressure control, should have a slight but definite effect on the room thermostat—the thermostat contacts have a "pulse action" that corresponds to on-off burner cycling.

If the room tends to become warmer than 72°F., opening of the flexible-blade contacts of the room thermostat (they just have to open one-hundredths of an inch or so) will tend to prolong the burner's usual "off" periods. As no snap-action or dedent-action of the room thermostat is involved, this action of the room thermostat is exceedingly fine. No thermostat differential is involved, and that gives the feature of "point control."

If the temperature of the thermostat drops to 70°F., correspondingly the stiff-blade contacts of the Series 10 thermostat tend to touch each other. They also involve "pulse action" and "point control" (no thermostat differential effect). Closing during their pulsing, they shunt the steam-main temperature control. Because the room temperature is dropping to 70°F., the stiff-blade contacts start the oilburner earlier than the steam-main temperature control would start it.

Diag. 3 gives two control ideas which can be used to help out big oilburners. As the caption explains, Temperature Control "A" short cycles a big burner at night, to keep warm the job's oil lines which contain warm No. 6 fueloil. Use of this idea has avoided high suction-line vacuum difficulties.

Temperature Control "B" provides the "enforced off period" described in the caption—avoids too much starting and stopping on steam-pressure control, and "air-charges" radiators of a one-pipe steam system so that even in coldest weather the amount of heat given off by different radiators can be controlled by the venting rate of the vent-valves on the radiators.

❖

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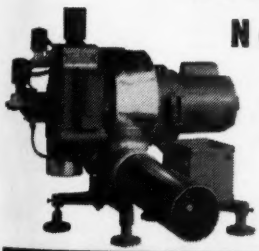

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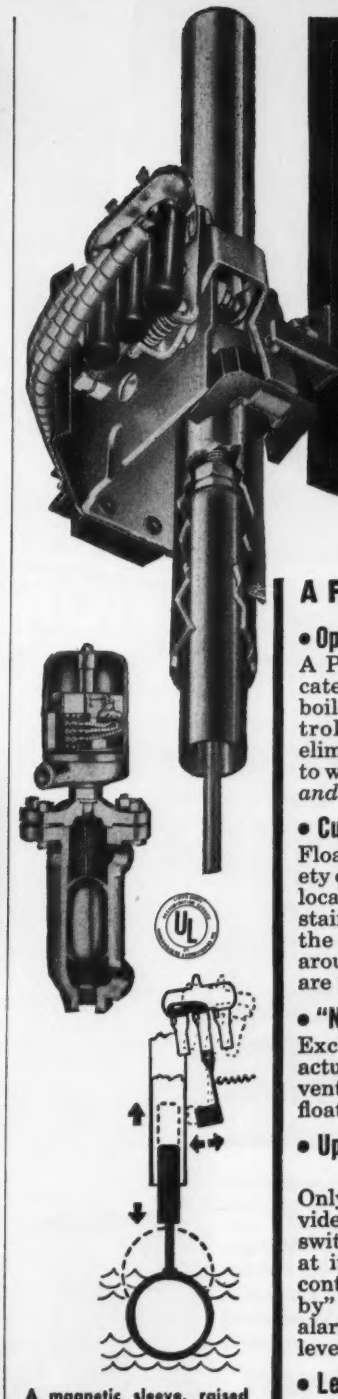

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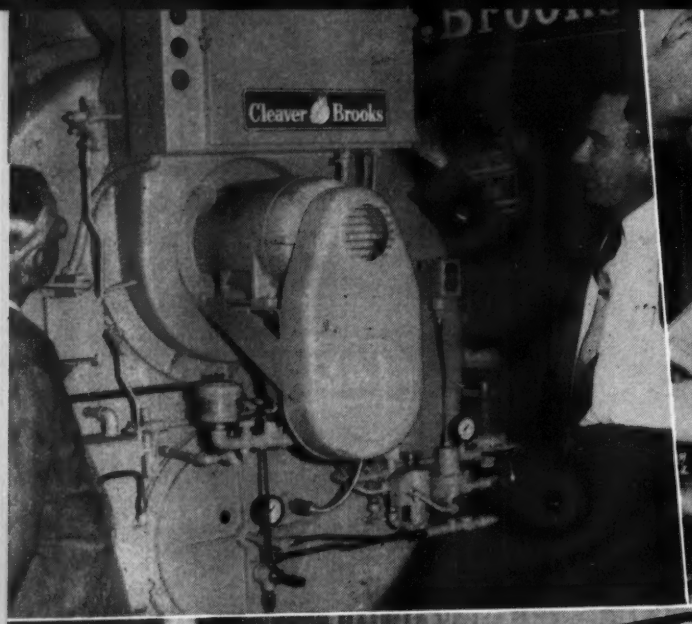

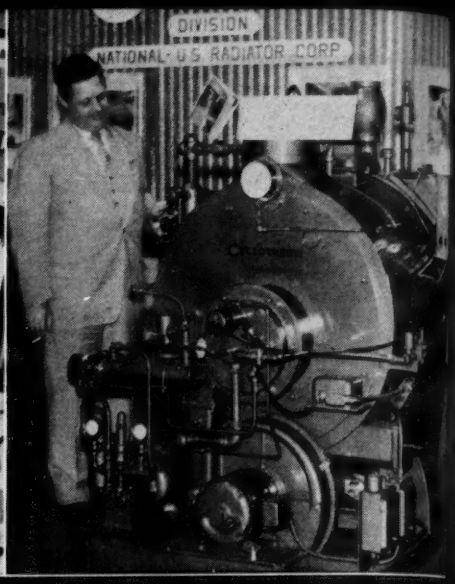

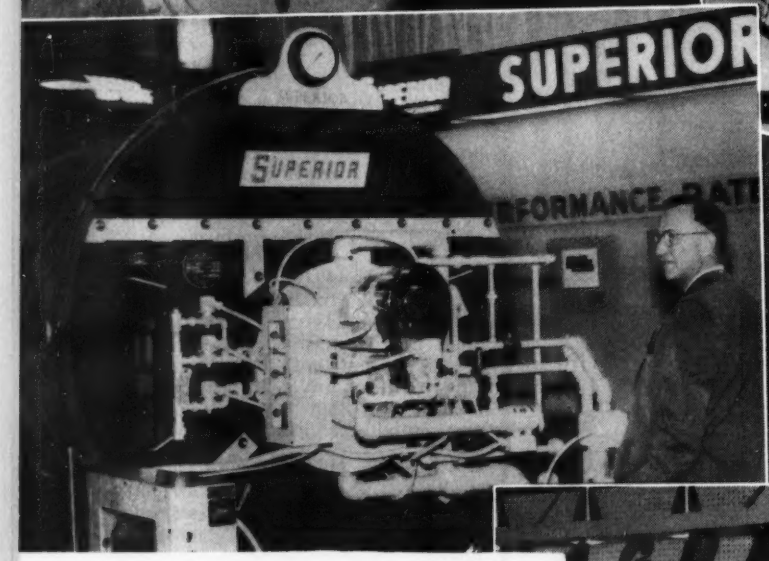

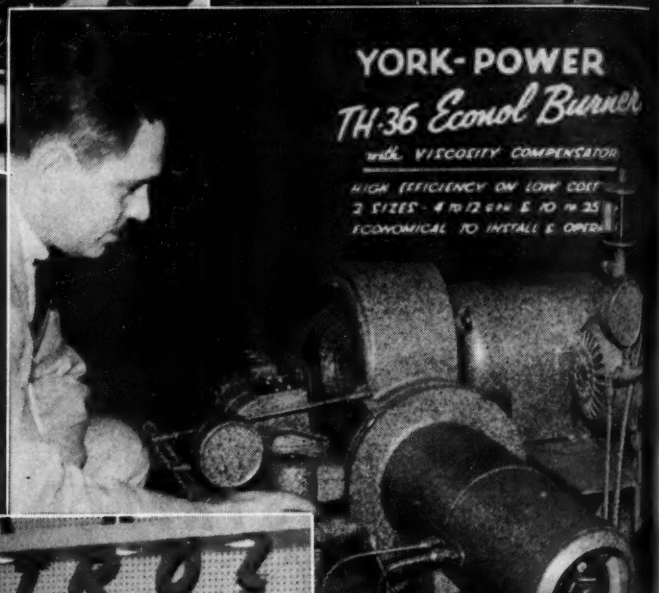

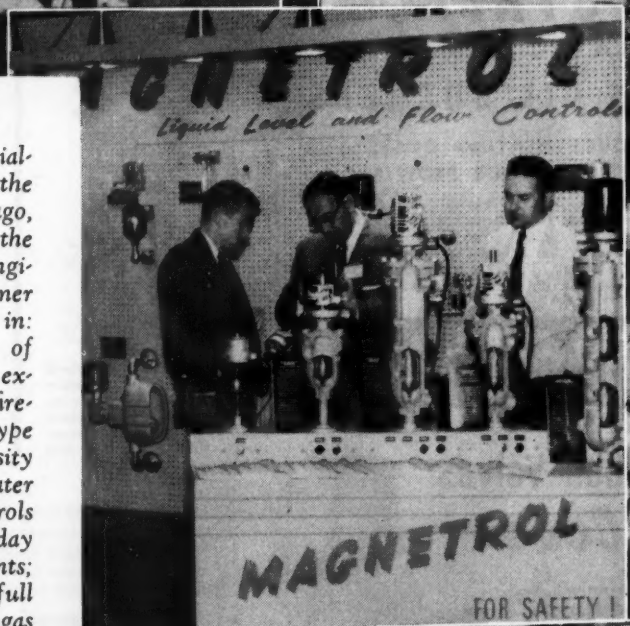

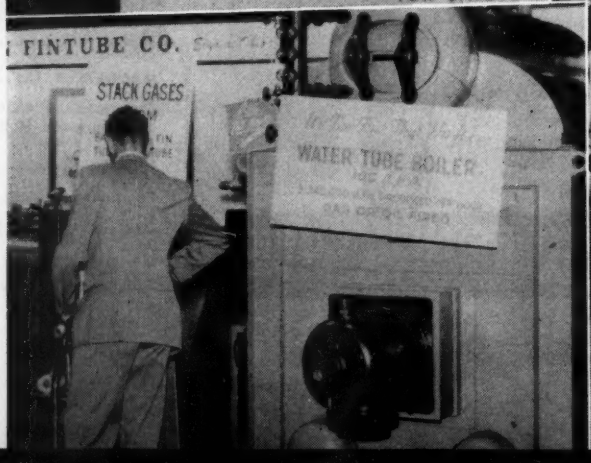

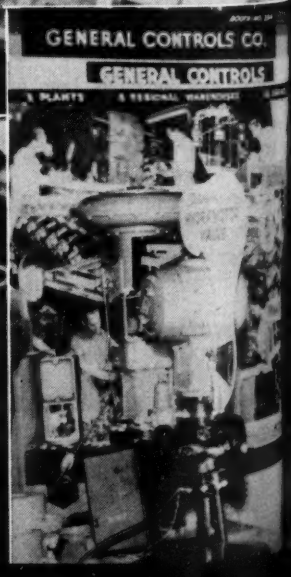

1955 Power Show

These pictures *spotlight commercial-industrial oilburning exhibits at the 1955 Power Show, held in Chicago, November 14-18 and sponsored by the American Society of Mechanical Engineers. Commercial-industrial oilburner enthusiasts found special interest in: Low stack-temperature display of Brown Fintube Co., featuring extended surfaces on the fireside of firetubes; York's* TH-36 *Econol gun type conversion oilburner with viscosity compensator; Magnetrol's low water controls and new liquid-level controls for No. 5 and 6 oils, not only for "day tanks" but also for fueloil bulk plants; Superior Combustion displayed a full size package unit firing fueloil or gas automatically; General Control's showed a working display of a Hydramotor valve and its Perfex Division featured a variety of controls for commercial-industrial boiler rooms; Cyclotherm's packaged units, Plibrico's hammered refractories and the full line of Cleaver-Brook's Hev-E-Oil burners were included, too, in the several other displays of commercial-industrial oilburning equipment.*

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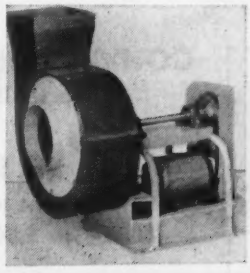

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EFFECTIVE JANUARY 1, new installations of fuel burning equipment in New York City using residual fueloil must be equipped with an automatic smoke alarm. This, and a provision for a dual set of oil preheaters, was contained in amendments to the city's Air Pollution Control Rules, promulgated by Dr. Leonard Greenburg, commissioner, Department of Air Pollution Control, City of New York.

Many of the amendments refer to changes in definitions and general rules relating to smoke emission by equipment other than oilburning. Section 11.2, however, is concerned only with fuel-burning equipment, using residuals oils or bituminous coals as fuels, and for that reason is reproduced herewith:

"11.2. Stationary fuel burning equipment using residual oils or bituminous coal as fuels.

"11.2.1 Upon a violation of Rule 1 and where required by the Commissioner fuel burning equipment using residual oil, or bituminous coal having a volatile content of more than 20% shall be provided with a smoke recorder and alarm with the sensitive element placed on the breeching leading to the offending stack. The smoke detector and recorder shall be maintained in good order.

"11.2.1.2 All fuel-burning equipment hereafter installed using residual oil, or bituminous coal having a volatile content over 20%, shall be provided with an automatic smoke alarm with the sensitive element set at a suitable location on the breeching between the boiler and stack. The alarm shall be maintained in good operating order.

Dual Preheaters

"11.2.2 All residual oilburning equipment hereafter installed shall have not less than two oil heaters each capable of heating oil to a temperature appropriate for the oil and burner. Where only one of the heaters is intended for continuous operation it shall be capable of heating not less than the oilburner pumping capacity or twice its burning capacity, whichever is greater. At least one heater shall have its source of heat independent of the boiler or furnace for which it heats oil and it shall have a capacity of at least ¼ of the burner capacity.

"11.2.2.1 All submerged heaters shall be equipped with a valved blowdown outlet and shall have a shut-off valve located in the lower boiler connection between the blowdown outlet and the boiler.

"11.2.2.2 All installations using residual oils shall be equipped with a thermometer showing the temperature of the fueloil after it has passed through the heaters. It shall be installed in a convenient location.

"11.2.3 All automatic burners hereafter installed using residual oils shall be equipped with a device preventing oil being delivered by the burner to the furnace until it is at the proper temperature for correct atomization.

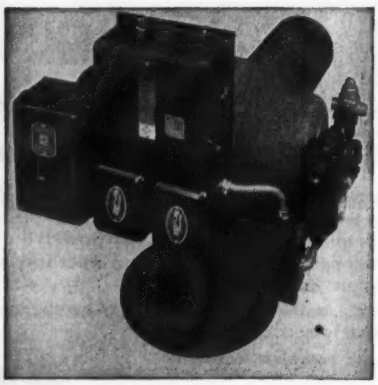
COMMERCIAL & INDUSTRIAL oilburning

DO YOU INSTALL INDUSTRIAL OIL BURNERS?

Up To 35 gallons of oil per hour

A wise dealer AVOIDS taking chances by careful installation planning—and choosing good equipment.

Don't guess—CHOOSE a Weatherall Industrial oil burner—and GET these ADDED FEATURES:



Smooth LOW FIRE start
Positive HIGH FIRE operation
Modern and foolproof control systems
Electric solenoid oil valves
No secondary air required
Complete combustion—High CO_2
Simple and Easy installations
Minimum service expense

WEATHERALL Industrial Oil Burners are specified when dependable, service free operation is required—for schools, hospitals, institutions, office buildings, factories, garages and greenhouses.

MAIL TODAY

TO: WEATHERALL ENGINEERS, INC.
478 Smithfield Avenue
Providence 4, R. I.

Please send me the complete information on Weatherall heating equipment.

NAME .....

COMPANY .....

ADDRESS .....

CONVERSION BURNERS
up to 35 GPH

DIRECT FIRED HEATERS
Hi-boy, Lo-boy, suspended
80,000 to 5,000,000 B.T.U.

BOILER-BURNER UNITS
steam—320 to 3000 ft.
water—510 to 4800 ft.

"11.2.4 All installations burning residual oil shall be provided with a poster giving installation data and instructions on maintenance and operation procedures to prevent stack emissions in violation of the Rules and Regulations of the Department. This poster shall be easily legible in type size not less than pica and shall be enclosed in laminated plastic or approved equivalent, not less than thirty thousandths of an inch in thickness, and equipped with a rust proof grommet. It shall be mounted permanently in a conspicuous and convenient location in the boiler room and shall include at least the following information:

Wall Poster required

A. Installation Date.
   1. Name, address and telephone number of owner or authorized agent.
   2. Name, address and telephone number of oilburner installer.
   3. Air Pollution Control operating certificate number and date.
   4. The grade and viscosity of the oil for which the installation is designed.

B. Necessary Maintenance.
   1. Procedure for keeping the burner clean and at what intervals this should be done.
   2. Procedure for cleaning the water side of the oil heater and the intervals this should be done.
   3. Procedure for keeping the secondary air passages clean and the recommended cleaning periods.
   4. Warning that the refractory should be regularly inspected and repaired or replaced when necessary.

C. Operating Instructions.
   1. Procedure for operating smokelessly.
   2. Procedure for minimizing smoke when starting cold.

"Warning — Poor operation and neglect of maintenance or burning a heavier oil than specified above may cause illegal emission of smoke for which the penalty, upon conviction, is a fine up to five hundred dollars or imprisonment up to six months or both."

Big Burner Shipments sag during month of October

OCTOBER SHIPMENTS of commercial-industrial oilburners declined about 600 burners below the previous October according to the Market Research Department, Oil-Heat Institute of America, Inc.

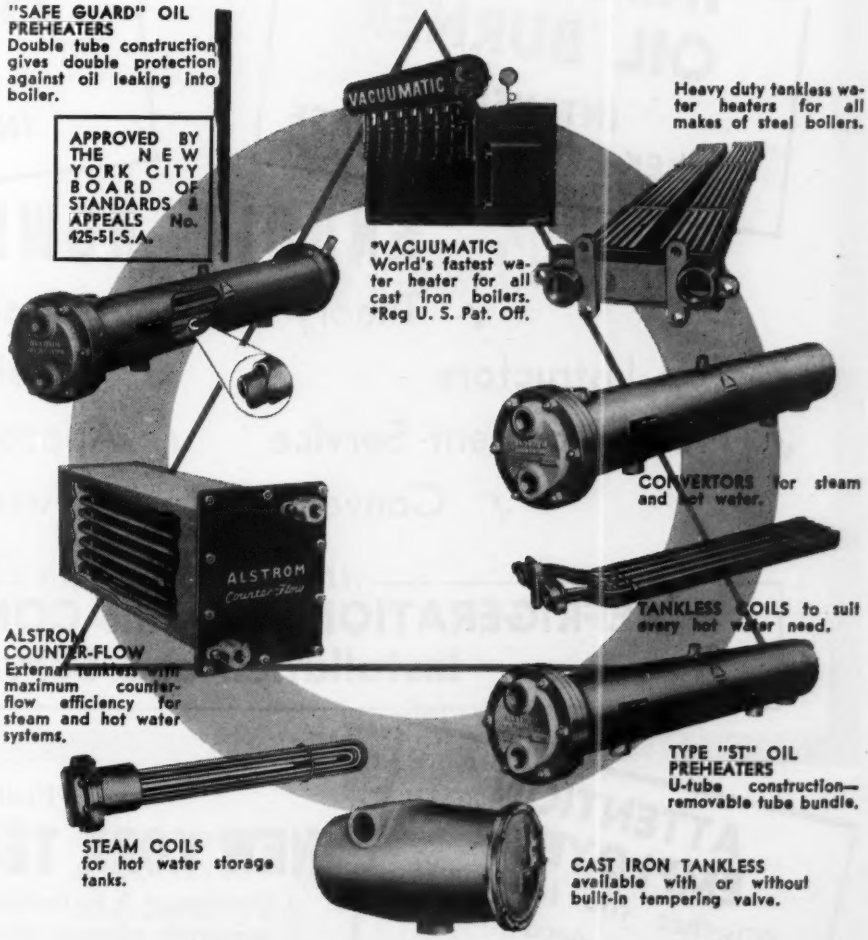
All of this loss was in the horizontal rotary types. Ten month totals are running behind too. Last year 30,873 burners were shipped as compared to 28,811 this year.

A breakdown as to type of burner shipped is as follows:

	Oil-burners	Oil-Gas Burners
HORIZONTAL ROTARIES		
2½ and under	146	0
Over 2½ to 8	26	1
Over 8 to 30	374	6
Over 30 to 100	575	22
Over 100	21	6
Total Shipments	1,142	35
GUN BURNERS		
Over 5 to 30	2,414	97
Over 30	34	17
Total Shipments	2,448	114
MECHANICAL ATOMIZING		
30 and over	36	8
TOTAL, ALL TYPES	3,626	157

Choose an ALSTROM HEAT EXCHANGER

make your next installation a top performance job!


"SAFE GUARD" OIL PREHEATERS
Double tube construction gives double protection against oil leaking into boiler.
APPROVED BY THE NEW YORK CITY BOARD OF STANDARDS & APPEALS No. 425-51-S.A.
VACUUMATIC
*VACUUMATIC
World's fastest water heater for all cast iron boilers.
*Reg U. S. Pat. Off.
Heavy duty tankless water heaters for all makes of steel boilers.
CONVERTORS for steam and hot water.
TANKLESS COILS to suit every hot water need.
ALSTROM
Counter-Flow
ALSTROM COUNTER-FLOW
External tankless with maximum counter-flow efficiency for steam and hot water systems.
TYPE "ST" OIL PREHEATERS
U-tube construction—removable tube bundle.
STEAM COILS
for hot water storage tanks.
CAST IRON TANKLESS
available with or without built-in tempering valve.

WRITE FOR LITERATURE

THE ALSTROM CORPORATION

790 EAST 176th STREET • NEW YORK 60, N. Y. • CY 9-2310

Announcement!

NEW YORK TECH

Now accepting enrollments for

FEBRUARY TERM

classes in

OIL BURNER

Installation and Service

including License Preparation for N.Y.C. exams

INDUSTRIAL OIL BURNER
INTENSIVE
5-WEEK EVENING COURSE

DOMESTIC OIL BURNER
ALL MAKES
INCLUDING G.E.

ENROLL NOW!

- ✓ Theory and Shop Training
- ✓ Top Instructors
- ✓ Finest Practical Equipment
- ✓ Free Placement Service
- ✓ Approved for Korean Vets
- ✓ Convenient Terms Arranged

ALSO COURSES IN
REFRIGERATION and AIR CONDITIONING
Installation and Service

ATTENTION EMPLOYERS!
Whether you have men to train or need trained servicemen. . . . . .
REMEMBER NEW YORK TECH

Visit, Call or Write

NEW YORK TECHNICAL INSTITUTE

A Division of N.Y. Institute of Technology
A non-profit educational institution. Est. 1910

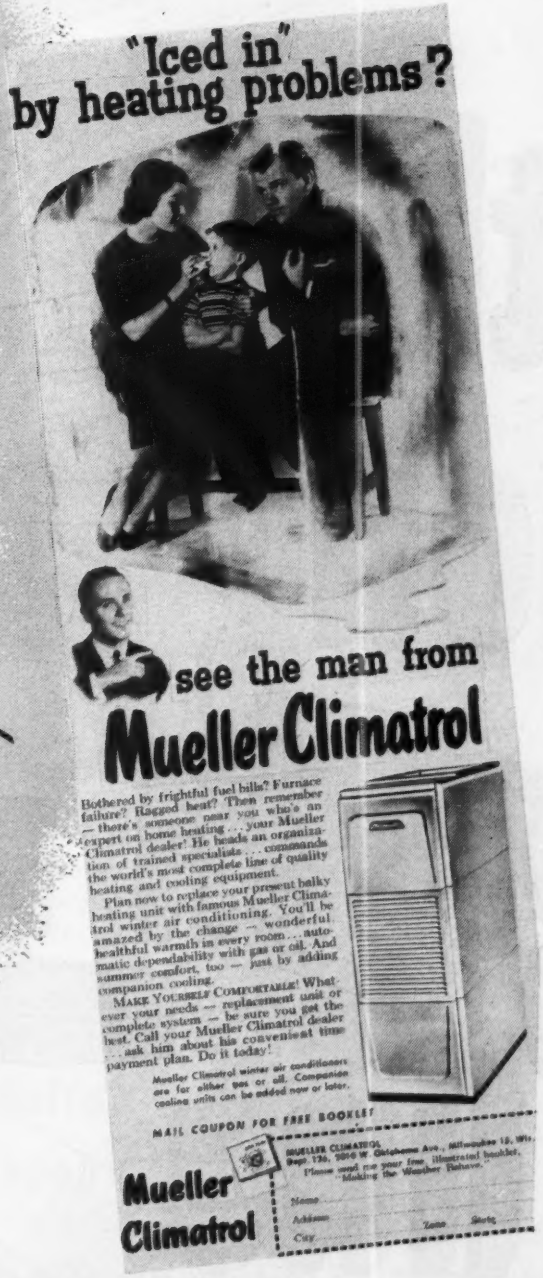
500 Pacific St., Brooklyn, N. Y.
MAIN 5-6220
Near all subways and L.I.R.R.

We aim to make your sales

urn greener every day

you're the hero with

lueller Climatrol


"Iced in"
by heating problems?
see the man from
Mueller Climatrol
Bothered by frightful fuel bills? Furnace failure? Ragged heat? Then remember — there's someone near you who's an expert on home heating . . . your Mueller Climatrol dealer! He heads an organization of trained specialists . . . commands the world's most complete line of quality heating and cooling equipment.
Plan now to replace your present balky heating unit with famous Mueller Climatrol winter air conditioning. You'll be amazed by the change — wonderful healthful warmth in every room . . . automatic dependability with gas or oil. And summer comfort, too — just by adding companion cooling.
MAKE YOURSELF COMFORTABLE! Whatever your needs — replacement unit or complete system — be sure you get the best. Call your Mueller Climatrol dealer . . . ask him about his convenient time payment plan. Do it today!
Mueller Climatrol winter air conditioners are for either gas or oil. Companion cooling units can be added now or later.
MAIL COUPON FOR FREE BOOKLET
Mueller Climatrol
MUELLER CLIMATROL
Dept. 176, 2060 W. Oklahoma Ave., Milwaukee 15, Wis.
Please send me your free illustrated booklet, "Making the Weather Features."
Name
Address
City
Zone
State

This year, we're out to help you get bigger-than-ever profits with the long green line of heating and cooling equipment.

Throughout 1956, we'll be singing your praises in a powerful, sales-inspiring advertising campaign. Thousands of present and prospective home-owners in your area will read and respond to the pre-selling drive of advertisements like the one shown here in reduced form. They'll see these ads in magazines of proved influence — BETTER HOMES & GARDENS . . . HOUSEHOLD . . . HOUSE BEAUTIFUL . . . etc.

and that's just the beginning

turn the page for more exciting facts! 〉

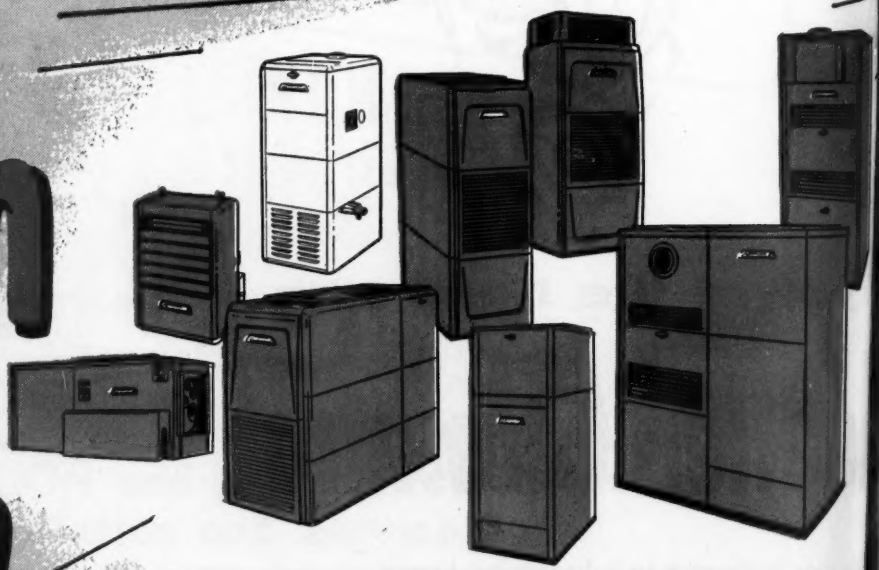
More reasons why it pays to sell...

Mueller Climatrol

the long green line

Pre-tested Selling Aids

No other manufacturer of heating and cooling equipment gives you all this sales promotion material . . . proved effective under actual market conditions. You get a full line of product bulletins . . . direct mail . . . local newspaper ads . . . outdoor posters and highway signs . . . streamers and store displays . . . TV and theater films . . . radio commercials . . . and more, much more!



America's Most Complete Line

No other manufacturer of heating and cooling equipment offers you more variety to sell — variety that covers the broadest range of sizes and prices. You get a complete selection of winter air conditioners. You get summer air conditioning—air or water cooled — from coils to packaged units . . . from combinations and add-ons to companion units. You get gas and oil-fired unit heaters . . . boilers . . . incinerators . . . a host of famous-quality products, all with pace-setting engineering.

WINTER
BEGINNING NOW ... we set the scene for the selling months! All promotion designed to sell you as the expert best qualified to solve any heating or cooling problem.
SPRING
BEGINNING IN MARCH ... we make the bid for profitable, new-construction business. Our pre-selling package is geared to build public acceptance for the man who handles the Mueller Climatrol line.
SUMMER
BEGINNING IN JUNE ... year-'round comfort is the theme. Integrated promotion helps sell Mueller Climatrol home cooling equipment ... punches up home heating, too.
FALL
BEGINNING IN SEPTEMBER ... everything you need to help you get your share of replacement business. Everything you need to help build sales of oil and gas conversions, too.

Coordinated 4-Season Promotion Plan

Four times during 1956, Mueller Climatrol dealers will receive a sales promotion kit — packed with everything you need to tie-in with the national pre-selling program.

You can profit more with Mueller Climatrol

To give you all the exciting facts about the money-making possibilities would take all the pages of this magazine.

For example, we could tell you about our prospect-pleasing time payment plan and our sales anticipation program for you. We could tell you about our tie-in with Operation Home Improvement, the big national campaign that will win dollars for you on replacement business.

We could go on forever . . . but we won't! We want you to get the story first-hand from the man who knows it best.

Call your man from Mueller Climatrol . . . or mail this coupon!

Now's the time to get the facts on why this is the year to profit with America's most complete heating and cooling line. Call today . . . learn why sales are turning greener every day.

Mueller Climatrol 2050 W. Oklahoma Avenue Milwaukee 15, Wisconsin

I'd like to know more about the profit possibilities offered by Mueller Climatrol.

Name_____

Firm Name_____

Address_____

City_____ Zone____ State_____

Promotional Worksheet on local oil heat Advertising

A COLLECTION of representative oil heat advertising prepared and placed during 1955 by local fueloil groups in 18 markets is contained in the "OHMR Promotional Worksheet," a 16-page, newspaper size folder, prepared by Oilheating Market Reports, 270 Park Ave., New York 17, N. Y.

At present there are 35 such campaigns either being prepared or approved for a start during 1956 and future issues of the "Worksheet" are planned as these develop. Actually its purpose is two-fold; not only does it demonstrate visibly the extent and theme of local oilheating advertising but it is intended to familiarize dealer associations with programs of other groups and so "help each oilheating market operate a more intelligent promotional program for its own area."

Also, future issues of the "Worksheet" will contain samples of consumer publicity for newspapers.

Copies of the "Worksheet" may be obtained from Oilheating Market Reports by local dealer associations who are interested in advertising oil heat. Also, individual companies in localities where there is no local association or where no program is being conducted, may secure copies to generate interest in starting co-operative advertising in their markets.

The picture below shows the front cover of the "Worksheet," this page featuring the Duluth, Minn., campaign.

❖

Warm air Systems favored in new Homes, says Survey

A JOINT STUDY by *Better Homes & Gardens* and the F. W. Dodge Corp., New York, reports that nearly three out of four new homes built by American families today are heated by forced warm air.

According to the report the use of gas has made substantial gains in most areas, but oil is still the dominant heating fuel in New England and in other areas of the East. Electricity is gaining some importance in areas with low power rates.

❖

Farm Journal cites comfort, economy of central Heating

IN A RECENT ISSUE of the *Farm Journal* there is an article telling of the comforts and economies of central heating for rural families.

As an example of economy it tells of one Vermont farmer who replaced three old stoves and three portable electric heaters with a furnace and at the end of the year found his heating bill $6.10 less—in addition to a better heated house.

The article points out that a warm air system may be more practical in new homes from a price standpoint, but that there are advantages to hot water heating, particularly in rambling homes that call for long runs of duct or pipe.

The magazine emphasizes that a homeowner can tackle the installation himself, but the average family will get central heating cheaper and faster by hiring a heating dealer.

Preassembled Models, gas and oil, loboy and hiboy

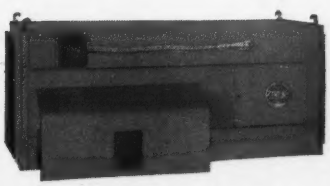
Summer-Winter Air Conditioning, gas and oil, loboy and hiboy

Winter Air Conditioners, gas and oil, loboy and hiboy.

Commercial Units, oil, loboy

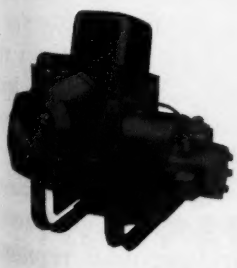
Gravity Units, oil and gas

Midget Boiler and Water Heater, oil



Horizontal, gas and oil

Counterflow Units, gas and oil



Conversion Oil Burner

Conversion Gas Burner

the right unit for every prospect

CENTURY

HEATING

COOLING

There is a Century gas or oil unit of the size, shape and capacity needed by any prospective customer. And each of the many Century units has the famous Century Engineered quality. Smart, modern, functional design, round-cornered cabinet beauty makes sales easy . . . your profits big. And Customers want the silent efficiency offered by Century's Summer-Winter Air Conditioning. They can definitely be shown that the beauty of the Century line is more than skin deep!

It will pay you to inquire about Century — the heating and cooling line that's on the move.

CENTURY

ENGINEERING CORPORATION

CEDAR RAPIDS, IOWA FOH

Please send more information on the complete Century line, to:

Company _____

Attention _____

Address _____

City _____ State _____

Readers' Problems

Q. Here are some questions. I hope you can help me, and I'll appreciate it.

With a working knowledge of oil and gas conversion burners (I have installed and serviced several makes of both) in all the books I have been able to get, none covers the matter of breeching or flue pipe size.

I find a furnace with a 12" flue pipe to the chimney. I never know what to reduce it to. Leave it at 12" and I have trouble stabilizing the draft. How do other men handle these problems? Is it just a matter of snap judgment or experience which I don't have?

Information starting with gas practice is what I need especially. I've got three gas-heated houses I'm converting to oil. Am figuring others. Most have coal-designed furnaces or hot-water boilers now fired by gas conversion burners. Whether I install new oil-designed boilers or furnaces, or just convert the coal-designed units (already installed and now fired by gas) to oil by installing conversion burners, to my experience it is important that the breechings or flue pipes be of the right sizes.

D. G. T., New Rochelle, N. Y.

A. First, you ask for information starting with gas practice. Checking, we find that in your locality the installers of gas conversion burners followed this basis closely for draft hood and smokepipe sizes serving gas conversion burners, in up-draft furnaces and boilers; maximum of 6,500 Btu per square inch of flue area:

Input Btu per hour	*Size of Draft Hood and Flue Pipe*
Up to 120,000	5 inch
120,000-160,000	6 inch
160,000-250,000	7 inch
250,000-320,000	8 inch
320,000-410,000	9 inch

For smokepipes longer than ten feet, or having more than two elbows, the next larger size pipe and draft hood is used.

The foregoing figures answer your question about flues being figured according to Btu input of gas conversion burners, and should help you understand the gas conversion burner jobs you are studying in connection with conversion now to oilfiring.

Figuring oilburner smokepipes, which you also ask about, you can assume these can be 25% to 35% larger in area than gas-job smokepipes. On that basis you should have no trouble stabilizing the draft.

Using a draft regulator of excellent design, you should have no draft-control trouble (even if the smokepipe is greatly larger than is needed for the gph firing rate) if you install a draft regulator the full size of the smokepipe you find on the job.

You are barking up the wrong tree if you are making a big point of avoiding needlessly large draft regulators (and needlessly expensive regulators) on jobs having smokepipes which are

Only The Super Can Do The Job So Well

Super Model SH

No other furnace cleaner has as many design and construction features for doing a thorough cleaning job as the Super Model SH. No other furnace cleaner is as capable of creating the kind of customer satisfaction that means repeat business and new prospects for plants and services.

- Cleans all kinds of heating plants
- Light weight
- Wet and dry suction
- Cleans 'em hot or cold

Ask your local Super dealer. Write for complete specification data.

THE NATIONAL SUPER SERVICE COMPANY
1951 N. 12th Street Toledo 2, Ohio
Sales and Service in Principal Cities
In Canada: Plant Maintenance Equipment Co.
Toronto, Montreal, Vancouver

"Once Over Does It"

SUPER SUCTION®
SINCE 1911
"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

PEERLESS

OF BOYERTOWN PENNSYLVANIA

SINCE 1908

Oil & Gas Fired "WET HEAT"

CAST IRON BOILERS

MORE and MORE, Architects, Contractors and Home Owners are specifying CAST IRON BOILER, HOT WATER and STEAM heating systems in residential and industrial construction.

WET HEAT and CAST IRON BOILER SALES ARE UP — YOU'LL BE PREPARED TO MEET THIS DEMAND WITH PEERLESS

There Are Many Advantages To Being a PEERLESS DEALER

Peerless manufactures a complete line of Oil and Gas Fired CAST IRON BOILER heating units, Serving Residential Homes, Apartments, Home Projects and Industrial Buildings.

WILL STEP UP YOUR SALES
Put YOU in a Better Competitive position to handle all Oil and Gas Fired Hot Water and Steam heating systems.

Factory and dealer relations are closely knit to build good will and keep it.

You'll get many sales aids: Complete jobber catalogue with easy to read specifications and descriptive illustrations, 2-color folders, consumer and industrial magazine advertising, regional and national show displays, factory engineering information upon request.

Peerless products are backed by experience of nearly 50 years in the manufacture of Home and Industrial Gas and Oil Fired heating units.

Model TOU Series, Oil Fired. For both steam and hot water heating systems.

Certainly you'll want to know more about the Peerless complete line, and the new MM, the "Mighty Midget". Just announced, a revolutionary new small, but powerful, residential heating unit. Write for complete information

THE PEERLESS HEATER CO.
Division of Eastern Foundry Co.
BOYERTOWN, PENNSYLVANIA

PEERLESS HEAT
SINCE 1908

greatly oversize. The cost of installing a smaller smokepipe will be much greater than the extra cost of the larger draft regulator. Reduction fittings can be expensive!

There's no percentage for you in trying to become an expert at replacing oversize smokepipes by smokepipes of proper sizes!

Q. What fire size to use? (1) Coal boiler grate is 32" x 72"; (2) Standing steam net load 3,200 sq. ft. and boiler does not heat hot water for faucets; (3) Yearly coal consumption has been 57½ tons average over 13 years; (4) Fire the boiler rating, not known incidentally, or fire the load?

B. J. W., La Crosse, Wis.

A. If the firing will be efficient on a high CO_2 and no-smoke basis and if the stack temperature will be fairly low, under 550°F., because the boiler has fairly effective flue passages—then a firing rate as low as 6.0 gph might carry the load nicely.

So design the firebox for 8.0 gph, start out firing 8.0 gph, and reduce the firing rate later if you deem that advisable. If you wind up firing 6.0 gph, shorten the firebox to make it suitable for this rate.

Regarding your item #4: For years the FUELOIL & OIL HEAT advice has been to fire a boiler as lightly as heats the building properly on coldest mornings, but don't fire a steam boiler so lightly as to produce a ridiculously low stack temperature, say below 400°F. or 450°F., depending on the design of the steam boiler—on how rapidly it steams after a cold start when fired relatively lightly.

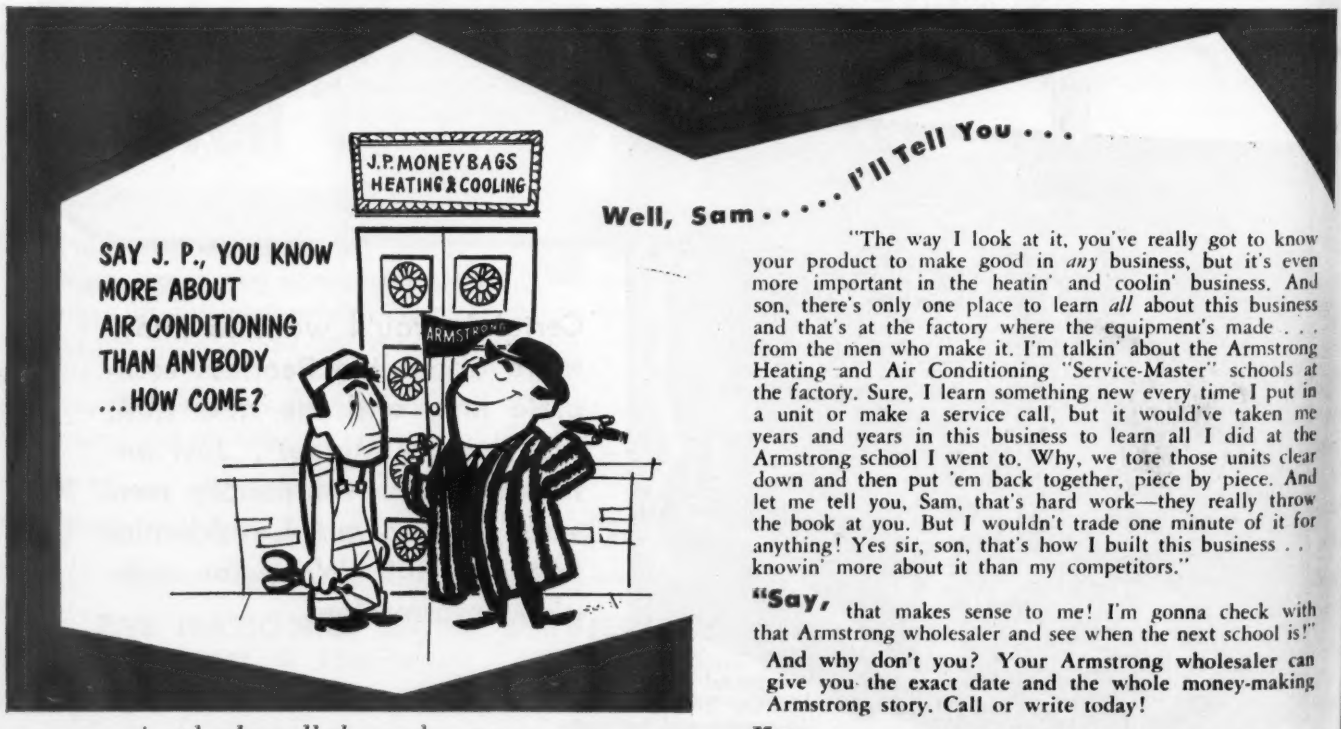
Steam mains and return lines are assumed to be effectively insulated, for they should be.

Most important: Make certain to air-vent the radiators and steam mains beautifully! Equip them with the best air-venting specialties you can buy—designed of course for steam plants fired in the modern, intermittent fashion.

Q. Please figure out this one for me. Servicing a three-year-old forced-air furnace, I found fueloil dripping slightly from the oil filter. Because fuel unit made buzzing sound every few seconds, drawing in oil from outside tank, I screwed a vacuum gage into it. Got reading of 2" vacuum with burner running normally. Closed the suction-line valve tight and found the pump developed a maximum vacuum of only 6", which proved the fuel unit defective. I call a fuel unit defective if it does not develop a maximum vacuum of at least 25" with the suction-line valve tight-closed.

So went back to shop for parts and (1) put a new gasket in the oil filter to stop the drip and (2) replaced the weak fuel unit with a new one. Burner then gave vacuum-gage readings of 2" with valve open and 26" with suction-line valve tight-closed.

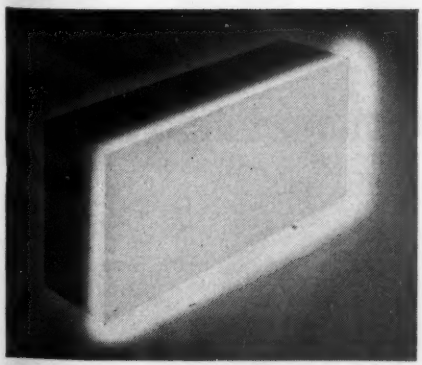
But how is it that, starting to work on the old fuel unit in the shop, I tested it and found it 100% OK? During bench test, it developed higher than


J.P. MONEYBAGS HEATING & COOLING
SAY J. P., YOU KNOW MORE ABOUT AIR CONDITIONING THAN ANYBODY ...HOW COME?
ARMSTRONG
Well, Sam . . . . . I'll Tell You . . .
"The way I look at it, you've really got to know your product to make good in *any* business, but it's even more important in the heatin' and coolin' business. And son, there's only one place to learn *all* about this business and that's at the factory where the equipment's made . . . from the men who make it. I'm talkin' about the Armstrong Heating and Air Conditioning "Service-Master" schools at the factory. Sure, I learn something new every time I put in a unit or make a service call, but it would've taken me years and years in this business to learn all I did at the Armstrong school I went to. Why, we tore those units clear down and then put 'em back together, piece by piece. And let me tell you, Sam, that's hard work—they really throw the book at you. But I wouldn't trade one minute of it for anything! Yes sir, son, that's how I built this business . . knowin' more about it than my competitors."
"Say, that makes sense to me! I'm gonna check with that Armstrong wholesaler and see when the next school is!"
And why don't you? Your Armstrong wholesaler can give you the exact date and the whole money-making Armstrong story. Call or write today!
Yep, it sure is nice bein' an Armstrong dealer.
just look at all these advantages . . .
* A complete line of furnaces and air conditioners
* Wholesalers who do your stocking for you
* National advertising in top consumer magazines
* Prospect-catching promotional material
* Service and product meetings in the field
* Dealers heating and air conditioning schools at the factory
* And you're selling quality equipment
YOUR ARMSTRONG WHOLESALER ready to assist you . . . all-ways
Armstrong Furnaces
AND AIR CONDITIONERS
COLUMBUS 8, OHIO

"Now I heat up faster and save money on fuel with J-M Insulating Fire Brick!"

"We knew our 'skin-heat-in-seconds' would get you on the job in a hurry!"

You can build better fireboxes with this insulating fire brick that saves up to 10% on fuel



"Skin-heat-in-seconds" of J-M Insulating Fire Brick is demonstrated in this photograph. Within seconds after the burner goes on, the entire inside surface of the firebox becomes white-hot. Laboratory tests prove that this brick can save up to 10% on fuel.

IT'S EASY to make *lifetime* customers by saving them up to 10¢ on every dollar they spend for fuel. *Just build their oil burner fireboxes with J-M Insulating Fire Brick that saves fuel by getting a skin-deep curtain of white-heat intensity within seconds!*

Customers will also appreciate the fact that J-M Insulating Fire Brick in their firebox results in far less soot, smoke, and odor. And its light weight, cellular construction contributes substantially to quieter oil burner operation.

You'll find it easy to install J-M Insulating Fire Brick. Cut them quickly with a hacksaw blade . . . use them to build any shape or size firebox specified by the oil burner manufacturer. Recommended brick for domestic oil burner fireboxes are JM-20, JM-23, JM-26. For industrial use . . . JM-28 and JM-3000.

See your J-M Distributor for further information about these brick that heat up faster and save more money . . . or write Johns-Manville, Box 60, New York 16, New York. In Canada, 199 Bay Street, Toronto 1, Ontario.

For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners, use J-M STANDARD FIRECRETE* — a hydraulic setting refractory — ready for use in 24 hours.

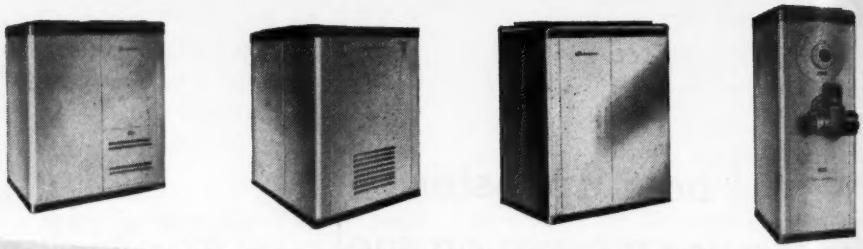
*Reg. U. S. Pat. Off.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

For "Skin-Heat-in-Seconds" in Fireboxes

Gasaver and
Oilsaver Furnaces



for the industry's most

DeLuxe Gas
& Oil Furnaces

complete line of heating and

Super Gas,
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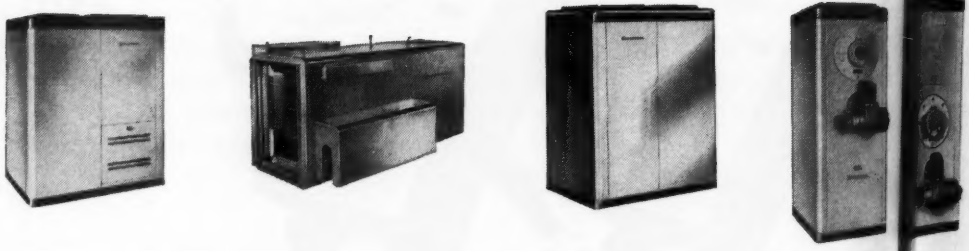
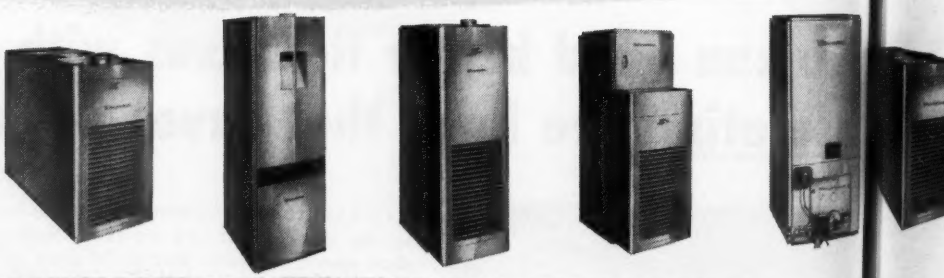


cooling equipment backed by

Special Gas
& Oil Furnaces



strong consumer promotion . . .

Wethermatic
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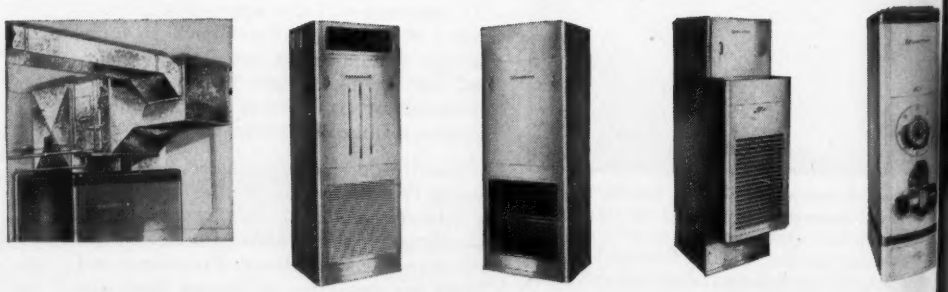
Waterless Cooling Units



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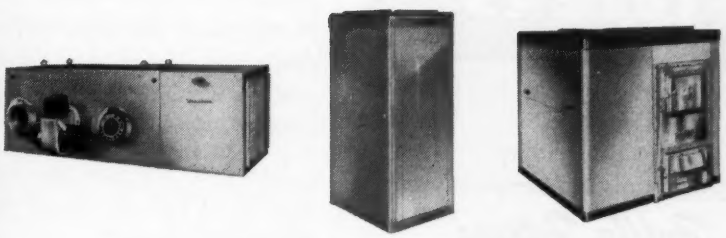
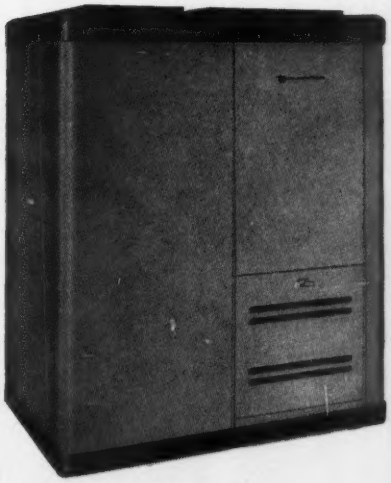
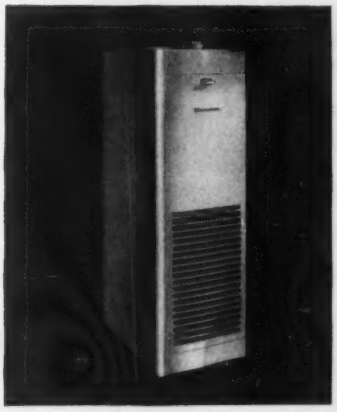
- *New Designs*
- *New Models*
- *New Colors*

Blue-Gray Metalescent Finish





Two-tone Hammer Finish Green



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As Advertised in Leading Magazines

THE WILLIAMSON COMPANY

3312-A1 Madison Rd. Cincinnati 9, Ohio

Gentlemen:

Please send me information on the following:

☐ Heating Equipment ☐ Cooling Equipment

☐ Duct, Pipe and Fittings

Name.....*Title*.....

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Address.....

City.....*Zone*.....*State*.....

25" as its closed-valve vacuum reading. I wonder if I did the wrong thing in replacing the fuel unit on this job.

F. W. U., Grosse Pointe, Mich.

A. Correct, you did the wrong thing in replacing the fuel unit!

When you first studied the burner, fueloil dripped slightly from the leaky fuel unit while the burner was idle. But with the burner running, air was sucked into the leaky oil filter; reaching the fuel unit, the suction-line air caused the oil pump to buzz every few seconds, to use your words for it.

When you closed the suction-line valve, which must have been on the tank side of the oil filter, great amounts of air entered the leaky oil filter and prevented the fuel unit (which did not have a weak and defective oil pump) from developing a vacuum higher than 6". All the job needed was a new gasket in its oil filter.

The level of oil in the outside tank must have been below the level of the leaky oil filter. Otherwise much oil would have leaked from the oil filter with the burner idle, for the 6" reading of your closed-valve vacuum test proved the oil filter was leaking greatly, not slightly. If you'd held your ear close to the oil filter during this vacuum test, chances are you would have heard the hissing of the air entering the filter.

Q. Because this house is on a hill, bottom of its 550-gallon buried tank is a foot or two higher than the pressure burner mounted on the warm-air furnace. So a break in the suction line at the burner will cause all the fueloil in the tank to siphon into the basement. At the point where suction line comes through the basement wall and enters the basement (five and one-half feet above the basement floor), I intend to install a solenoid valve wired in parallel with burner motor. Then with burner motor idle valve will be closed, eliminating danger of oil flooding basement if suction line breaks or is damaged at a low point.

Question #1—Do you agree that my solution ends the hazard in the most satisfactory manner?

Question #2—Because I have delayed-opening solenoid valves in stock, for use in nozzle lines, we are discussing using one of these in the suction line, but we ask you if this would lead to damage to the burner's oil pump during start-up period when the valve remains closed for four to six seconds?

T. O. A., Seattle, Wash.

A. #1—Even if we agree your solution ends the hazard, safety authorities interested in the installation may not agree. Instead of using your idea, install an anti-siphon valve listed by UL. Install it in accordance with its manufacturer's recommendations. You will follow standard practice and nobody will be able to declare the job is unsafe. You will save lots of money; the anti-siphon valve costs no more than the solenoid valve, but the anti-siphon valve does not need the line-voltage wiring layout that you would have to install for the solenoid valve.

#2—If despite foregoing answer #1 you did things your way, you would not damage the burner's oil pump. It might whine a bit on a start-up, developing high vacuum during the

The extra quality which is built into *Fulflo Filters* assures positive protection against all Burner troubles arising from microscopic impurities always present in heating oils.

The reason there are so many more FULFLO FILTERS than any other make on the Oil Burners of America is because so many Dealers have learned that they give the most dependable protection obtainable—anywhere.

COMMERCIAL FILTERS CORPORATION
2 MAIN STREET
MELROSE 76, MASSACHUSETTS

Protect your Profits with FULFLO FILTERS

It's their Honeycomb Filter Tubes that give Fulflo Filters their leadership year after year. True depth filtration — always dependable.

four to six seconds while the suction-line solenoid valve remained closed, but it would not be damaged. The burner may produce a flame that starts in an erratic and undesirable manner, because the build-up of pressure in its nozzle line will not be the same as it is when you start it up with the suction-line valve open.

Q. Can you reduce fuel consumption by setting a forced-air furnace's high-limit control low for mild months, higher for severely cold months, so that for each month the furnace becomes no hotter than is needed to heat the house properly?

C. W. D., Dowagiac, Mich.

A. A book on gas heating, published many years ago, did indicate that fuel bills can be reduced 10% on warm-air jobs and hot-water jobs (not providing summer-winter hot-water, of course) by lowering the setting of high-limit controls during mild months in the way you describe. But today few heating experts look with favor on this method of attempting to minimize fuel consumption. There's too much bother in it for the man who re-sets the high-limit control of the job. Also and important, a day of January severity may come along when the system is set up for only mild-weather heating.

Determined to attempt to minimize fuel consumption by gearing the operation of the furnace to outside weather, you should install a heat-control system that matches the on-off cycling of the oilburner to the outside temperature. Then every minute the furnace bonnet temperature will be no higher than necessary for proper heat in the particular kind of outside weather. Using modern controls, you'll give the occupants the benefit of continuous, exceedingly smooth heat, even while you cut fueloil consumption.

Q. Other servicemen don't agree with me in my practice of shortening the try-for-ignition period, or start-up safety timing, of usual stack controls—set for 90 seconds timing at factory. Please put in print answers to these questions:

A. Isn't shortest practical safety timing safer than usual longer timing?

B. What's the big disadvantage to extra-short start-up safety timing?

A. G. K., Brooklyn, N. Y.

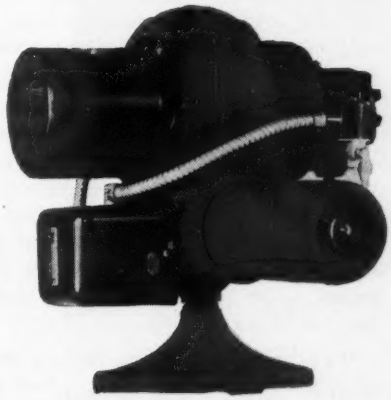
A. Yes, shortest practical safety timing is safer than usual 90-second or 120-second safety timing. A burner given only 45 seconds to try to start puts half as much atomized fueloil into its firebox, during its try-for-ignition period, as a burner given 90 seconds to try to start. Just before being stopped at the end of its try-for-ignition period, the burner may produce a flame as the result of a weak ignition system coming to life, or as the result of the atomized oil in the firebox being ignited by refractory still hot from the last oilburner "on" period.

Answer to question "B": Shortening greatly the try-for-ignition period certainly will lead to nuisance service calls—to burners "going off on safety" needlessly. That's particular true for jobs on which soot gradually accumulates on heat-sensitive control parts, helixes and similar devices, located in smokepipes.

THIS IS IT!

KORTH SHELL HEAD

The Most Advanced Design in Combustion Head Oil Burners



MODEL SR-SH
AVAILABLE IN TWO SIZES
.75 to 1.65 GPH
1.65 to 3.0 GPH
saves 20-40% over present fuel oil cost.

- **JUST 3 SIMPLE ADJUSTMENTS** All made externally while the burner is operating. Permits easier and more accurate setting — provides more flexibility to meet varying field conditions.

NEW! Now only 1 simple oil line connection—at the rear of the burner.

NEW! Heavy cast iron round pedestals on all shell head Korth burners.

Install one on that next job!

Send for New Low Prices and Your Copy of Complete Catalogue

SILENT KORTH OIL HEAT
"Seal of Quality"

ECKHART MFG. CO., INC.
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Canadian Distributor
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Most servicemen do not feel that the extra safety gained by short try-for-ignition periods outweighs the trouble and expense, in the form of nuisance service calls, that necessarily accompany the extra safety. Most servicemen believe that 90-second safety timing is enough for the typical installation.

True, there are exceptional high-stack-temperature installations on which stack controls react to heat from the flames within five or ten seconds after the flames light up. Smokepipe heat elements tend to stay cleaner on high-stack-temperature jobs than on usual jobs. Thus on jobs of this type you may be successful in setting stack controls for try-for-ignition periods as short as 30 to 45 seconds.

Q. To settle an argument: Is there great harm in setting a high-limit control at 175°F. on a forced-air job, when a bonnet temperature of 150°F. is high enough for coldest days?

C. W. D., Dowagiac, Mich.

A. No great harm in it! To set the high-limit control carefully at 150°F. would be a nicety that would avoid wasting fueloil if someone inadvertently opened a window near the thermostat on a cold day, for airing the room for example and without setting the thermostat low. Also, with the high-limit control set at 150°F., there might be a nicer, smoother build-up of heat when the setting of the thermostat is raised considerably either manually or by action of a day-night clock.

Q. Engineering ducts for a furnace suitable for up to .20" water pressure difference for its blower-filter equipment, does the .20" mean the total pressure-drop of supply duct system plus return-duct system, or the pressure-drop of the supply ducts only?

T. J. D., Bethlehem, Pa.

A. The .20" water pressure is the maximum for the entire duct system, including the return-duct system and the supply-duct system.

Q. Can a usual pressure burner firing a warm-air furnace at 1.35 gph run properly though its pump vacuum is as high as 16" because of high lift and small or kinked suction line to outdoor tank?

A. C. F., Portland, Ore.

A. Yes! We know of pressure burners running dependably developing vacuums as high as 18". If you are having trouble, consider equipping the burner with a two-stage fuel unit.

Q. We are worried because a burner puffed running out of oil. Customer never wants it repeated, although the only harm came in scaring the house occupants. How to avoid a repetition? A usual gun burner. Warm-air furnace has "puff door."

J. B. O. B., Washington, D.C.

A. If the firing head is suitable for this, wire the burner for continuous ignition—spark on all the time the motor runs. If the job has an inside tank, install a float-switch arrangement at the bottom of the tank; wire it to turn off the burner when the level of fueloil in the storage tank drops to about four to six inches of oil.

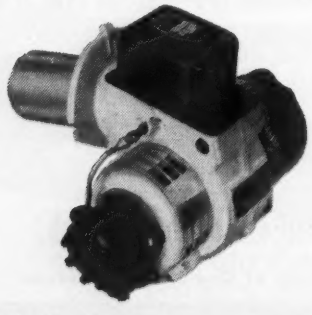
(Advertisement)

Long life . . . low upkeep make Nu-Way burners cost less

Nu-Way burners are less expensive to use and incorporate as standard equipment to your furnace or boiler, because we make them better — design them better . . . engineer them to last for many, many years, and still perform to our and your standards. Moreover, we take care of our own. Nu-Way's engineers and technicians are always available in the field and lab with technical help and information.

Take motor-pump alignment, for instance. Tolerance in a Nu-Way burner is only 0.0015 inches. This eliminates noise-causing vibrations . . . minimizes wear which naturally increases the pump life besides keeping service costs pared down to the bone.

Along with manufacturing the best and most practical oil burners, Nu-Way concerns itself with the good will of its customers. When a less perfect burner is used in a furnace — repairs are more frequent, operation is noisier. And, who does the customer blame? The burner manufacturer? No — chances are, the man who made the furnace gets the full load of blame. So why



run the risk of unhappy customers by using a burner not engineered and designed for long life and smooth operation.

Good housings are important, too. Nu-Way burners are housed in sand-cast aluminum alloy . . . stronger, more permanent, thicker — and still, lighter in weight than thinner sections of other metals. We might use other metals, but long experience proves it's worth it to use the best. Sand-cast aluminum alloy won't warp or twist — holds its *shape permanently,* and therefore holds the motor and pump in permanent close alignment.

There are lots and lots of reasons . . . all good ones . . . why we feel sure Nu-Way burners are the best on the market. Ignition conductors are solid brass . . . won't sag, won't deteriorate. Transformers are built extra-heavy, with more turns of wire and more coil laminations to give sure-positive spark for quick starting at all times.

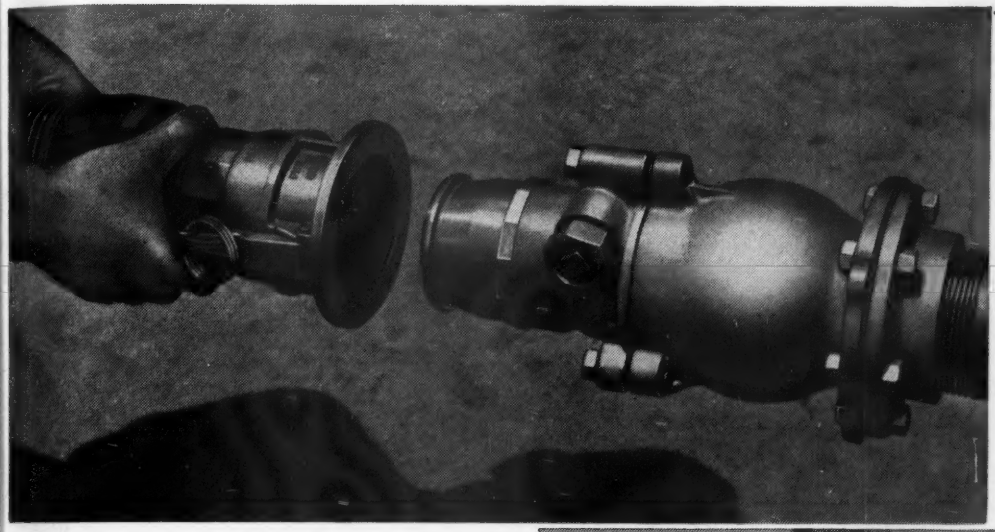
In designing our Nu-Way burners . . . we wanted to make them versatile and easy to care for. So, we made the mountings adjustable, for either floor or flange, whichever best suits your job. And, we put an extra-large hand hole in the rear of the burner. You can reach right in, make easy repairs . . . or pull the whole firing assembly clear out for cleaning.

We're constantly looking for new ways to make our oil burners better . . . keep our engineering staff busy researching bigger and better improvements. The same pride in our present Nu-Way burners keeps us determined to use only the highest quality transformers, motors and other components in the future. And, even if the initial cost goes slightly higher . . . you can be sure they'll be worth it . . . they'll be made to perform even better . . . to last even longer.

Write to us — we'll send you our free bulletin No. N1132. It illustrates our seven brand new models that have all of these features — gives complete description and specifications in easy-to-read 4-color blocks. And, remember . . . first cost can be the least cost when it's the last cost. Nu-Way Corporation, Dept. FO-16 Rock Island, Illinois.

(Advertisement)

New, quick-connecting leakproof hose coupler



← This new coupler snaps into place, seats and seals itself instantly without use of cams or levers. No chance of any leakage.

Coupler unfastens with outward pull on the arms. No spanner or wrench required. ↓

LOCKS AND SEALS *AUTOMATICALLY*

With this new design, the operator simply pushes the connector over the adapter. Two latches lock the unit together *automatically*—no threading or tightening necessary.

When the unit is locked, a patented self-tightening seal makes a leaktight connection at low or high pressure. The mechanism is designed so that it automatically compensates for any wear in the gasket or metal parts. The coupler is free to swivel before pressure is applied, preventing hose kinks.

All parts are made of bronze and stainless steel to prevent rust or corrosion. Couplers can be furnished in aluminum if required. Elbow style in 2½″ and 3″ pipe sizes; straight style in 2″, 2½″, 3″ and 4″ pipe sizes. Adapters are available for all pipes and faucets.

Write us before you have truck tanks built or refitted. We'll send you the complete details on these remarkably advanced couplers and on our full line of truck tank fittings and petroleum handling equipment.

PHILADELPHIA VALVE COMPANY

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Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, Calif.
Howard Supply Company, 5125 Santa Fe Avenue, Los Angeles 11, Calif.

New Products

Each New Products item has an identifying number. If you want more information on any equipment described here send the coupon on page 162 to FUELOIL & OIL HEAT, *2 West 45 St., New York 36, N. Y., and identify the product by circling its number on the coupon.*

Flamemaster Models now are offered with burner-mounted primary Control

PERFXRAY, burner-mounted primary control, now is offered with Flamemaster gun type oilburners. The arrangement eliminates stack mounting and stack wiring. Instead the relay is mounted on the oilburner and the flame detector is mounted in the air tube.

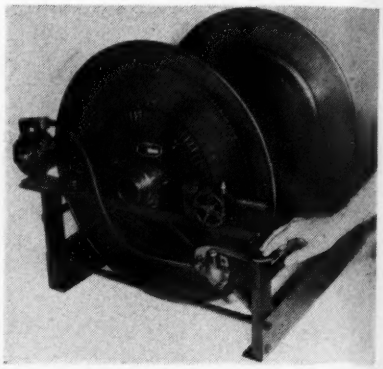
The control is a complete integral unit installed and prewired at the factory. Its operation is unaffected by soot, it requires no leveling and does not interfere with air flow.

Made by: Flamemaster Co., 3118 Milwaukee Ave., Chicago, Ill.

Circle E1 on coupon, page 162

New Hannay hose Reel utilizes compressed Air for Rewinding

EXPLOSION PROOF, compressed air rewind hose reels, announced by Hannay, feature a motor and valve control system to simplify compressed air piping, plus a built-in automatic back pressure relief valve. The control can be supplied off the reel for placement anywhere within easy reach of the operator and the rewind system can be ordered with all Hannay hose reels designed for hose up to 3" ID.



Complete rewind assembly consists of the lever control, air hose between the control and motor and the motor it-

Makes Your Cash Register hum a new $ $ $ tune!
new
Klemm
MICRO FUEL OIL FILTERS
• Attractive New Packaging • Lower Prices
• Hi-Chrome and Brushed Zinc Plated
PK-150 U/L
FF-430G
FF-430 U/L
Everything about these new Klemm Micro Fuel Oil Filters spells more profits for you. Still tops in all-round guaranteed performance; traps water and scientifically removes all foreign matter from every drop of fuel oil, eliminating nozzle and line clogging.
SEND FOR 1955-56 Catalog and new low prices
CHEMISTONE Micro ELEMENT (not a ceramic). The replaceable Chemistone Element offers true depth filtration . . . practically no flow resistance. Chemistone is NOT interchangeable with any other type cartridge. The seasonal element replacement business is YOURS and remains YOURS.
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Division of
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EXPORT: Guiterman Co., Inc., New York 4
CANADA: Elgee, Ltd., Toronto

Before the TACO Universal Flochek

It's a sorry situation when the job requirements change and call for a horizontal flow valve when you've brought along an angle valve. It means a costly loss of time.

After the TACO Universal Flochek

But those days are gone forever, thanks to the TACO Universal FLOCHEK.

You always have the right valve because the Universal is good for both angle or horizontal installations. To be safe, be sure to buy and install TACO Universal Flocheks, the TWO-IN-ONE valve.

WHOLESALERS
. . . stock just one valve . . . TACO Universal Flochek . . . cut inventories in half!

Better Heating
Taco
Better with Taco

TACO HEATERS INCORPORATED
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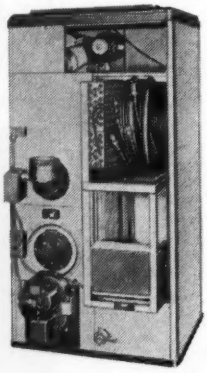
self. To rewind hose, the operator presses the control lever which sends air through the control to the motor to drive the revolving drum. To stop the reel, he has just to lift his finger and the control cuts off the motor.

Made by: Clifford B. Hannay & Son, 901 Main St., Westerlo, N. Y.

Circle E2 on coupon, page 162

Moncrief three ton cooling Unit is Air-cooled; has remote Compressor

A COUNTERFLOW UNIT added to the Moncrief furnace line with input up to 140,000 Btu/hr also provides 3 tons of cooling capacity, supplied by an air-cooled, remote, hermetically-sealed, two-stage system with two compressors, condensers and cooling coils. Only the cooling coil is mounted within the furnace cabinet.



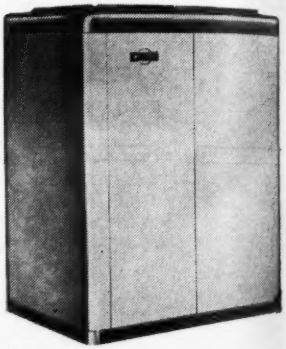
Both heated and cooled air are discharged from the same cabinet unit, with flexible copper refrigerant tubing, permanently brazed to the cooling coil, extended to the separate air-cooled condensing unit. Attachment of refrigerant lines is made with special couplings that retain the hermetic seal of the two separate sections.

Made by: The Henry Furnace Co., Medina, Ohio.

Circle E3 on coupon, page 162

Williamson adds new color Styling and reclassifies its furnace Lines

NEW COLOR STYLING and new names feature the 1956 line of Williamson furnaces. Oilsaver models, formerly called Oilsaver-DeLuxe, utilize two thermostats, one indoors and one outdoors, to predict the heating demand, preventing over-runs in mild weather and providing full output during extremely cold weather.



The new DeLuxe line includes oilfired furnaces formerly designated Oil-Flo. They feature a Williamson oilburner with a 5-year guarantee. A separate group of oilfired furnaces with 3-year guarantee burners, formerly the Oil Flo-Warm, now are included in the Super line.

Oilsaver, DeLuxe and Super lines are being produced with a new two-tone silver green finish, resulting from the trend to include the heating unit in home living areas.

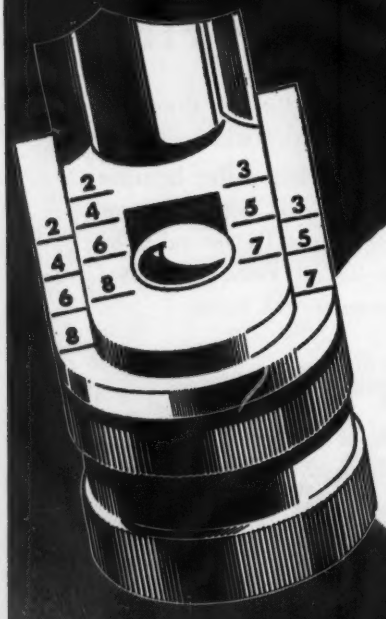
Williamson Special furnaces, formerly the Assembled line, are offered in a metallic gray finish, incorporating new vestibules that enclose the burner and controls. Special furnaces also can be had in a white enamel finish.

Made by: The Williamson Co., 3582 Madison Road, Cincinnati 9, Ohio.

Circle E4 on coupon, page 162

HERE'S THE WEIGHT
That LIGHTENS Your Work

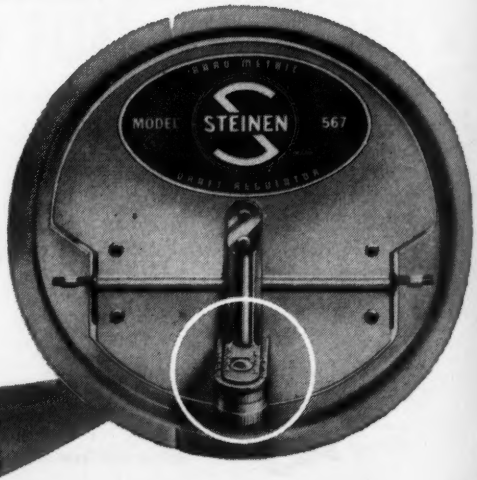
—adjustments made within seconds.



Weight adjustments are calibrated clearly and accurately for quick and easy setting.

To set for any draft, loosen front knurled weight 1 to 2 turns and tighten after matching two lines of desired setting. Rear weight moves with front weight so that true balance is always maintained.

The same method applies for either horizontal or vertical installation. It is not necessary to interchange ANY parts on the Steinen Draft Regulator.



STEINEN DRAFT REGULATORS ARE NOW AVAILABLE IN ALL POPULAR SIZES

STEINEN

ESTABLISHED 1907

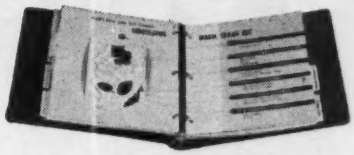
WM. STEINEN MFG. CO. 43 Bruen St., Newark 5, N. J.

TRADE MARK MANUFACTURERS OF ACCESSORIES FOR OIL HEATING AND AIR CONDITIONING

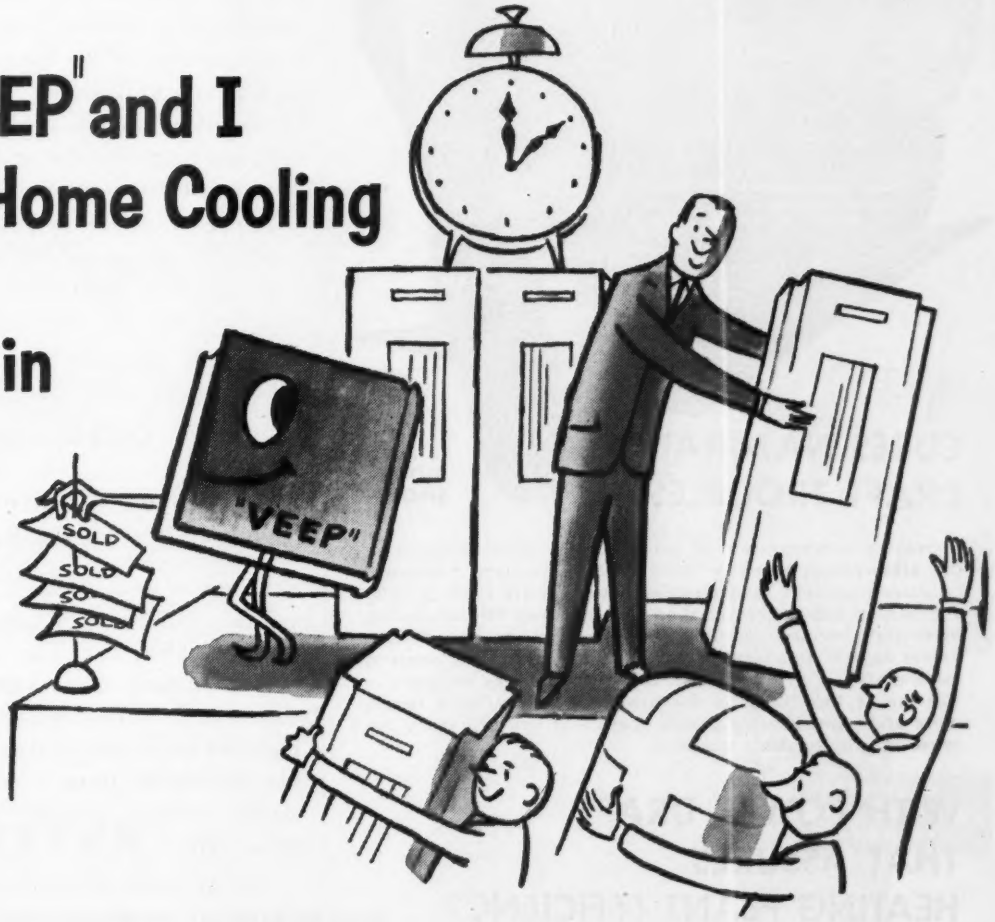
Report #1

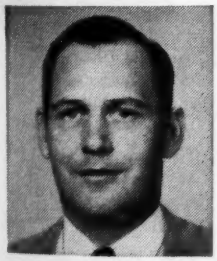
THE G-E "VEEP" IN ACTION

How new G-E "Magic Sales-Maker" popularly called "The Veep" helps increase sales for G-E Home Heating and Cooling Dealers



How the "VEEP" and I sold 7 G-E Home Cooling units and 4 furnaces in 24 hours!





JOHNNIE AIMONETTE, L & L Sales, Inc., General Electric Dealer Springfield, Ill.

SOLD! Seven G-E home cooling units and four G-E furnaces between the hours of 5 PM Friday and 5 PM Saturday! Looks pretty much like an all-time record!

Well, that's the score made by Johnnie Aimonette of L & L Sales, Inc., Springfield, Ill. Or rather, as Johnnie puts it, "The 'Veep' and I did it!"

This was the highlight of an amazing 5-month record that Johnnie achieved with the aid of the "Veep." A record of 58 sales of cooling units and 47 heating units between March 1 and July 31, 1955! His leads came from 3 sources — direct mail — advertising (newspaper and radio spots) and assistance from Mrs. "A." But when it came to clinching sales, Johnnie needed only one source of assistance, the "Veep."

"The new 'Veep' definitely helped close these sales," reports Johnnie. "Fact that the story is told mostly in pictures makes it easy to elaborate on my own sales pitch, and still cover all the important, sales-making features."

Watch for more true sales stories like this one—in future G-E advertisements in this publication. They all teach the same lesson:—the profit-wise home heating and cooling dealer is the one who has climbed on the G-E Bandwagon. Want to join up?

FREE! Sales Secrets That You Can Use. Exciting success stories by G-E salesmen tell how they broke sales records with the aid of the "Veep." For your copy write GENERAL ELECTRIC, HOME HEATING AND COOLING DEPT. FO-16, BLOOMFIELD, N. J.

Progress Is Our Most Important Product

GENERAL ELECTRIC

Home Heating and Cooling Dept., Bloomfield, N. J.

fueloil & oilheat

Quickdraft

CURES NATURAL DRAFT TROUBLES

22 INCH MODEL SHOWN

Increasing concentration of carbon and sulphur dioxides in the atmosphere, recently reported by scientists, handicaps ordinary chimneys by decreasing natural draft (CO_2 is 55% and SO_2 is 225% heavier than air) . . . and by demanding more draft because additional air is required to provide sufficient oxygen. In addition, current trends constantly demand more draft . . . (1) new fuels that require more oxygen . . . (2) longer flue travel in furnaces and boilers. As a result, more and more heating plants operate at low efficiency because of gravity draft troubles.

WITH POWER DRAFT THAT ASSURES HEATING PLANT EFFICIENCY

. . . No Fans or Motors in Smoke Line

Quickdraft power draft stops sooting, eliminates chattering, drys wet chimneys and greatly increases combustion efficiency. It does not obstruct smoke line with fans or motors. Quickdraft assures top performance from old and new heating plants. All models are approved by Board of Standards and Appeals, New York City. Write today for details.

Residential models for smoke outlet diameters 6, 7, 8, 9 and 10 inches.

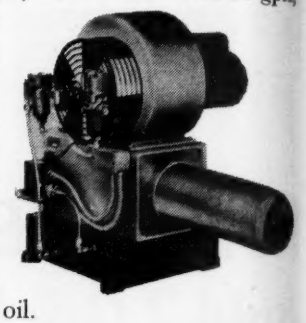
N-285-QD

Quickdraft COMPANY
Canton 1, Ohio

QUICKDRAFT COMPANY
Dueber-Hampden Building
P. O. Box 87-F,
Canton 1, Ohio

Sun-Ray gun Burner for No. 4 Oil is available in Capacities up to 20 gph

SUN-RAY high pressure burner for Nos. 4 or 5 fueloil is available in three models, 3 to 6, 6 to 12 and 10 to 20 gph, designed for commercial applications. Burner is UL and New York Board of Standards and Appeals approved, equipped with built-in Thermax converter to heat higher viscosity oils so that they can be atomized through a conventional nozzle to burn with the characteristics of No. 2 oil.



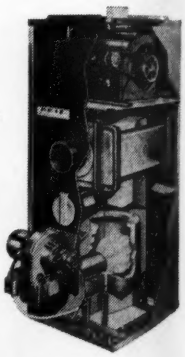
The fuel converter system has an automatic, electrically-operated firing assembly with built-in safety shut-down and fuel cut-off, a standard fuel pump, pressure regulating valve and strainer. No transfer pump is needed.

Made by: Sun-Ray Burner Mfg. Corp., 139-24 Queens Blvd., Jamaica 35, N. Y.

Circle E5 on coupon, page 162

Heil oilfired counterflow Unit is Addition to its Parkway Line

HEIL MODEL DF-O, with CB-1 pressure atomizing oilburner and Heat Bank heat exchanger, is a counterflow unit added to the Parkway line. The 84,000 Btu output furnace requires little more than 4 sq. ft. of floor space, stands 62" high and may be installed on combustible flooring by using a specially-designed sub-base, available as an optional extra.



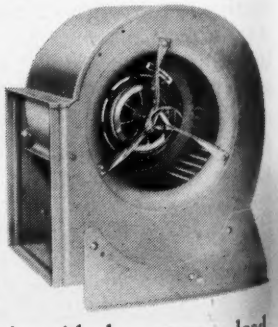
Parkway units, all of which are completely pre-assembled and pre-wired at the factory, are designed for budget installation in small to medium-size homes.

Made by: The Heil Co., Milwaukee 1, Wis.

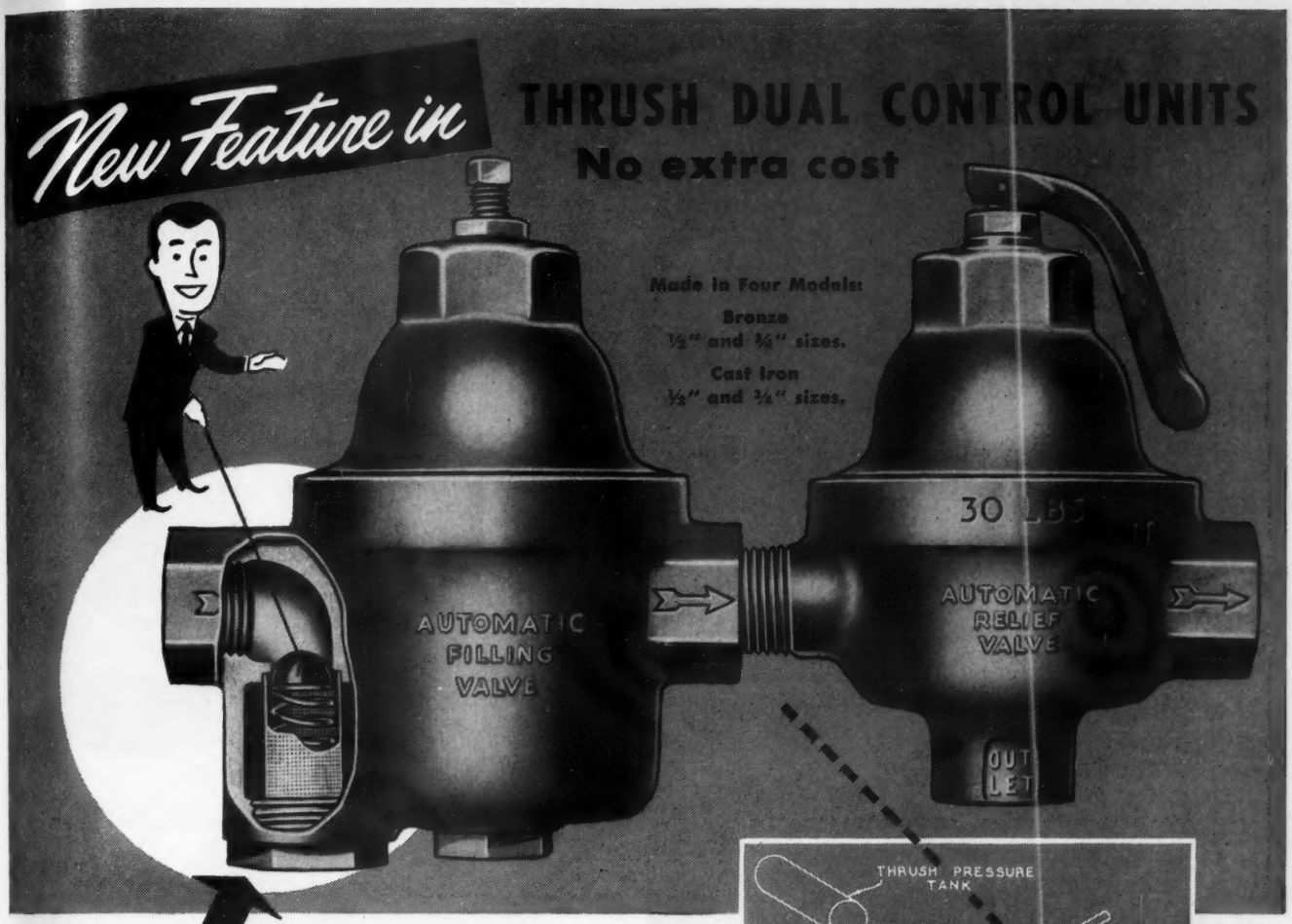
Circle E6 on coupon, page 162

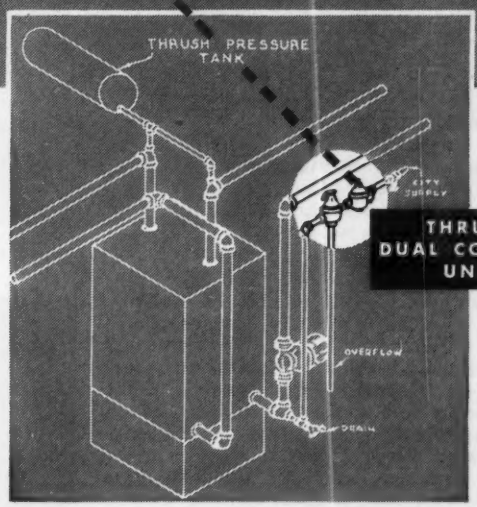
Lau Electro-Wheel blower Unit for air Deliveries up to 1500 cfm

ELECTRO-WHEEL blowers are direct-drive units delivering from 500 to 1500 cfm, static pressures from .5 to 1.25 ins. water gauge and available in five sizes, with or without housing supports, in 9" and 10" models. The unit's ¼ hp motor is mounted directly within the blower wheel, while a stationary shaft, rubber-encased on both ends, has been employed to absorb noise and vibration.



Designed to deliver more air with less power load,





FOR A BETTER LOW COST HOT WATER HEATING SYSTEM

New Thrush Dual Control Units now perform four functions. They make it easy and inexpensive to control hot water heat.

1. **Each fills the system and maintains water supply automatically.**
2. **Water entering system passes through a monel metal screen in the Built-in Strainer.**
3. **Excess pressure is relieved automatically.**
4. **A CHECK provided in the Strainer as shown in illustration stops loss of water from system if supply pressure fails.**

Only one unit to buy and install . . . does four jobs better. Less labor, less cost. When used with the Thrush Water Circulator and Thrush Pressure Tank as shown in the installation diagram, it makes a simple, low cost, yet highly efficient system. Forced circulation assures uniform heating and low fuel consumption. Get more facts now.

H. A. THRUSH & COMPANY
PERU, INDIANA

See your wholesaler for more information or write Dept. C-1.

Only WALKER Has It!

Automatic Draft Control with

Full Protection at All Vital Points!

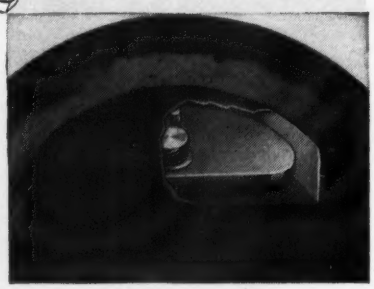
Pat. Pending

Royal Purple Model

Think of it! A draft control that's absolutely impregnable to soot, carbon, corrosion and dust . . . one that will give years of accurate, trouble-free service in spite of the most adverse operating conditions! The new Walker ROYAL PURPLE model is the first—and only—draft control with positive, all-point protection. These revolutionary improvements can't be copied or duplicated — they're exclusively Walker because of pending patents.

The Royal Purple — Hit of the Philadelphia Show

THE INSIDE STORY



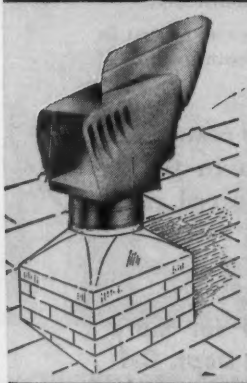
The weight adjustment assembly on the ROYAL PURPLE model is sealed in by a protective housing which keeps mechanism absolutely free from dirt deposits. Unretouched photo at right shows back of vane and housing after more than a year's service. Cutaway shows spotless condition of sealed-in weight adjustment assembly. Clean, corrosion-free operating parts assure ease of adjustment at any time.

This front view of an actual installation shows location of pivot pins which control vane movement. Notice how they are located on front face of damper and set back, away from edge. Box-type hinges completely seal delicate knife-edge pivots, keeping them clean and sensitive even after years and years of service.

For complete details on this sensational new development in draft control, see your jobber or write Walker Manufacturing and Sales Corporation.

Another Outstanding Walker Development

VENTURI-TOP CHIMNEY CAP



Ideal for both heating (gas, oil or coal) and ventilating applications. Directional vane keeps throat of vent facing into wind for maximum draft control. Sloping-throat design prevents back drafts and actually increases draft effectiveness by constricting it as it passes over chimney opening. Unit rotates on a friction-free, hardened-steel ball bearing. Pivot is also of hardened steel to assure lifetime operation. Ring guide bearing in pivot post keeps cap absolutely perpendicular—doesn't sag or lean. Streamlined design is both attractive and functional — a combination which makes it a favorite with today's architects.

Walker Manufacturing and Sales Corp.

1750 Penn St. St. Joseph, Mo.

Electro-Wheel units offer unobstructed air inlets on both sides of the wheel and feature its specially-designed motor as an integral part of the blower wheel center disc. The blower is interchangeable with present direct-drive models.

Made by: Lau Blower Co., 2007 Home Ave., Dayton, Ohio.

Circle E7 on coupon, page 162

Pullman Never-Clog is Vacuum designed for furnace Cleaning

PULLMAN's Never-Clog vacuum cleaner has been designed especially for furnace cleaning, with its never-clog feature accomplished through the use of a special secondary filter. Cleaner is guaranteed also to resist soot, soot acids, alkalis, rot, mildew and is fire-resistant.

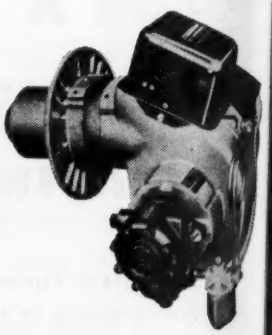
Furnished with a complete set of attachments, the Never-Clog has been subjected to more than three years of laboratory and field tests.

Made by: The Pullman Vacuum Cleaner Corp., 25 Buick St., Boston, Mass.

Circle E8 on coupon, page 162

Carlin's new Series of Burners are flange-mounted, gun Models

SERIES 150 Carlin gun type oilburners are a flange-mounted series, designed for attachment to boilers, furnaces and water heaters. Made for the popular-priced home market, the burners have 4¼" diameter blast tubes and are offered in two capacity ranges: Model 150F is rated at 0.65 to 1.50 gph; model 150 SF-21 from 0.65 to 1.35 gph. The former is equipped with a Carlin combustion head and the latter with a Shell-designed head.



Both are fitted with special electrodes, shaped to insure an adequate spark even during low or fluctuating voltage conditions.

Made by: The Carlin Co., Wethersfield, Conn.

Paraprobe oil leak Detector for steam type oil Heaters

PARAPROBE CONTROL, consisting of a condensate inspection tank, oil leak detector probe and high sensitivity relay, continually checks the purity of steam condensate leaving a fueloil preheater to guard against possible oil contamination from a leak in the oil tubes. An exploratory electrode, the Paraprobe, imposes a fixed low voltage upon the con-

MOR-SUN
Burners use Delavan Nozzles as Original Equipment

For your nozzle replacements, choose Delavan Nozzles . . . first choice with more than 120 leading oil burner and furnace manufacturers. Remember . . . companies like Morrison Steel Products conducted thorough evaluation tests before selecting Delavan Nozzles as original equipment on their widely accepted Mor-Sun burners.

The uniform dependability and soft, quiet fires delivered by Delavan Nozzles are an important factor in the excellent performance of Mor-Sun oil burners. Another feature that adds to Mor-Sun's efficient operation is their exclusive Heat Exchanger, which gives fast, even heat . . . top fuel economy. Next time you buy nozzles insist on Delavan . . . the nozzle proved better in thousands of homes across the country.

Write for Catalog No. 148B

DELAVAN
Manufacturing Co.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

WEST DES MOINES, IOWA

densate and in the event of contamination, which changes the electrical conductivity of the condensate, the relay closes an alarm circuit and opens the operating circuit.

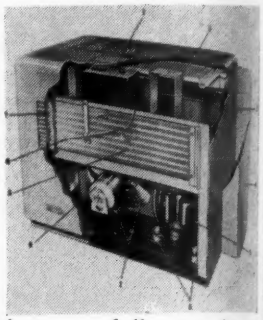
Bulletin 80 contains installation diagrams and specifications.

Made by: Davis Eng. Corp., 1064 E. Grand St., Elizabeth 4, N. J.

Circle E9 on coupon, page 162

Mueller Type 920 Airconditioner is commercial Unit for Heating-Cooling

MUELLER TYPE 920 recessed airconditioner takes the place of steam or hot water radiators in commercial establishments to provide air-cooled cooling, dehumidifying, forced air heating, ventilation and exhausts stale room air. It incorporates push-button selection for heating or cooling and includes a combination heating-cooling thermostat and fresh air damper control with friction adjustment for intermediate settings between full opened and closed.



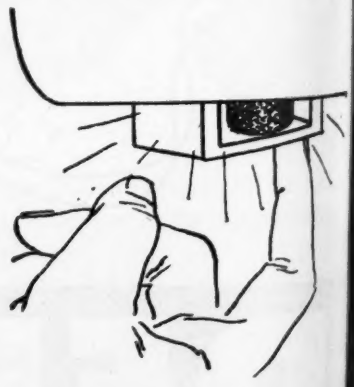
The unit's heating coil is operable with central steam or hot water supply; its cooling coil features extra large face area and depth for reserve capacity and humidity removal. An opening through the exterior wall serves the dual purpose of supplying fresh air for cooling and discharging the warmed air leaving the condenser.

Made by: Mueller Climatrol Div., Worthington Corp., 2050 W. Oklahoma Ave., Milwaukee 15, Wis.

Circle E10 on coupon, page 162

Tankit introduces magnetic Patch to seal Leaks in basement Tanks

TANKIT CO. has acquired patent rights to a magnetic type patch for sealing leaks in basement fueloil tanks. It is a 3½ oz. combination of neoprene rubber and permanent magnet which is placed over the leak and pressed firmly against the tank. It is intended to hold fast against existing pressures in the tank as well as those exerted when oil is being pumped into the tank.



Constructed in one piece, with no moving or loose parts the magnetic Tankit is reusable and comes equipped with a "Keeper" to protect it.

Made by: The Tankit Co., Inc., 174 Goldsmith Ave., Newark 8, N. J.

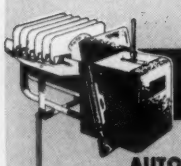
Circle E11 on coupon, page 162

Easiest of All to Install!

Auto-flo FUEL OIL FILTER

HEXAGON EXTENSIONS designed for EASY INSTALLATION of OIL LINE FITTINGS

More features means better heat for your customers—more profits for you. Double filter provides positive protection against clogged nozzles. One piece construction, with reinforced bolt spud, guaranteed permanently rustproof. Trouble free design eliminates callbacks and insures customer satisfaction. Use Auto-Flo Oil Filters on every installation — gravity or pressure type burners.



ASK YOUR WHOLESALER ABOUT THE . . . Auto-flo "100" AUTOMATIC HUMIDIFIER

AUTO-FLO CORP., 14590 Schaefer, Detroit 27, Mich

Please send me full information on:

☐ Auto-Flo Fuel Oil Filter

☐ Auto-Flo "100" Automatic Humidifier

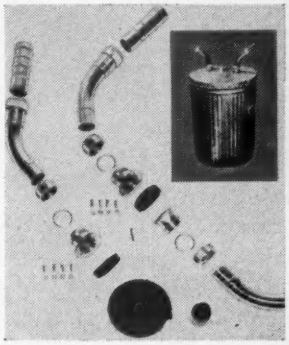
Name_____

Address_____

City_____ Zone_____ State_____

Premier auxiliary tank Kit for heavy volume furnace Cleaning

AN AUXILIARY TANK KIT, announced by Premier, includes all attachments to convert a standard 30 gal. waste can into an auxiliary tank for heavy volume work in furnace cleaning. Included are hose adapters, swivel attachment nut and ring, curved tube and swivel tube, gaskets, bolts and nuts. Bulk of the material is collected in the auxiliary tank and seldom reaches the master unit, eliminating damage to filters.



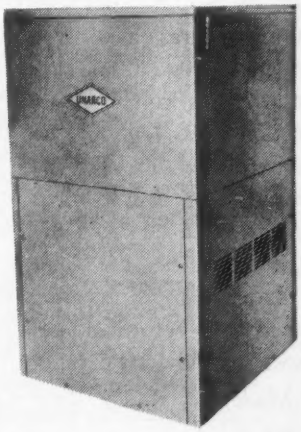
The use of the tank eliminates a special cleaner for boiler cleaning; the auxiliary tank can be left in the furnace room with the vacuum attached when needed. Unit is interchangeable with two or more cans and operates with any commercial cleaner.

Made by: Premier Co., 755 Woodlawn Ave., St. Paul 1, Minn.

► Circle E12 on coupon, page 162

Unarco Hydro-Pac water Chiller for Use with Dual-Vector System

UNARCO'S Hydro-Pac is a residential water chiller in 1, 2 and 3 hp models designed for use with the company's Dual-Vector year-round heating and cooling unit. The Hydro-Pac is equipped with a hermetic compressor.



Measuring only 36" high and 21" square, the water chiller is furnished with an electrical control panel as standard equipment. Hydro-Pac, which uses a spirally-wound chiller arrangement, can be attached to a water tower or to regular city water lines.

Made by: Union Asbestos & Rubber Co., Htg. & Cooling Div., 332 S. Michigan Ave., Chicago, Ill.

Circle E13 on coupon, page 162

Activated charcoal air purification Filter is made by Barnebey-Cheney

AN ACTIVATED CHARCOAL air purification filter with accelerated action, lowered air resistance and reduced cost is announced by the Barnebey-Cheney Co. The new filter removes odors, gases and vapors, bacteria and mold spores from the air stream passed through it.

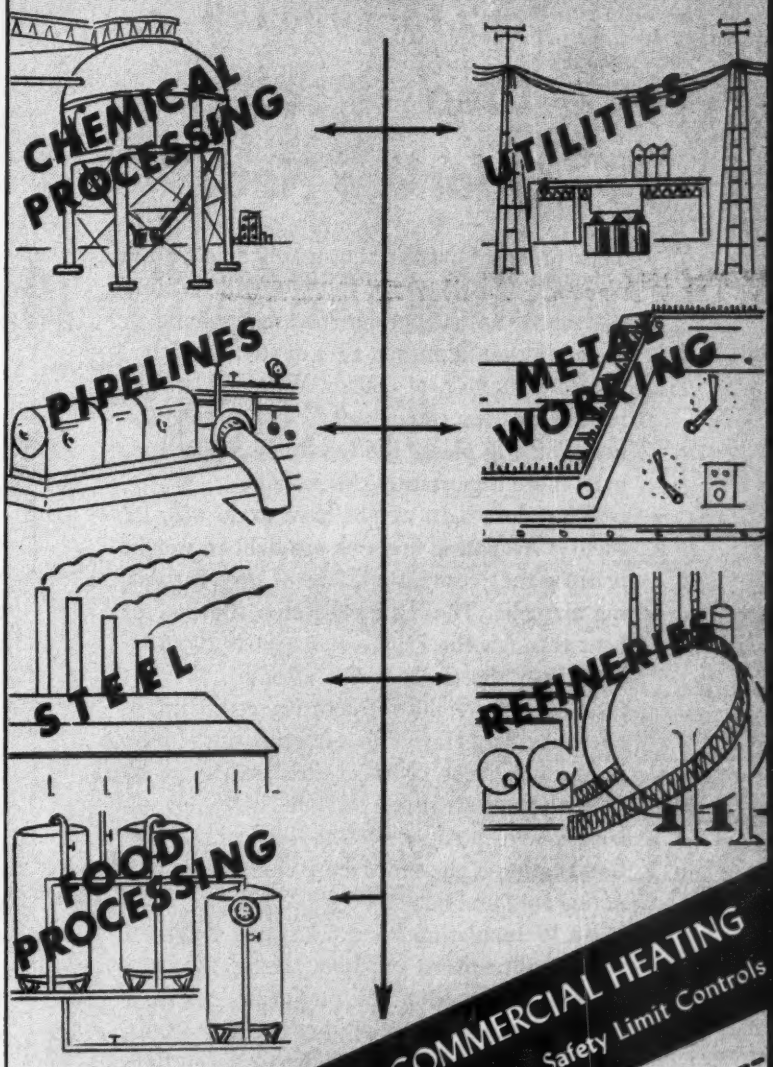
Fiber-reinforced charcoal strips are arranged to provide exposed charcoal surface thus boosting rate of absorption.

Made by: Barnebey-Cheney Co., Columbus, O.

Circle E14 on coupon, page 162

- FOR SAFETY -
-LASTING PERFORMANCE-
-AT LESS COST-

MERCOID CONTROLS
FOR EVERY INDUSTRY



FOR RESIDENTIAL AND COMMERCIAL HEATING
Room Thermostats—Oil Burner Safety Controls • Safety Limit Controls

SEND FOR NEW CATALOG

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO 41, ILL.
Send Catalog No. 856E to:
Name:
St. Address:
City & State:

CONVERSION JOB *Tips*

Don't Forget to Sell

Clean Heat

Odorless Heat

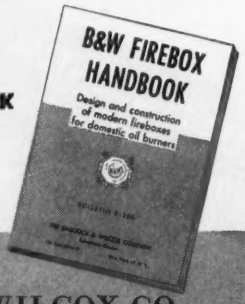
Your prospect may be thoroughly sold on the economy of oil heating. But you still can lose the sale if he has the idea rattling around in his mind that oil means a lot of soot and odor.

And it doesn't, of course. With lightweight refractories you can deliver *clean* heat, *odorless* heat that will please the fussiest prospect and, even more importantly, his wife.

What does light weight have to do with it? Plenty! Insulating firebrick are light in weight because they contain millions of tiny, insulating air cells. These air cells stop the flow of heat through the brick—the heat is bounced back into the firebox. On start-up, the hot face of lightweight refractories come up to operating temperature in a fraction of the time it takes to heat ordinary firebrick. And by keeping the heat inside the combustion chamber flame temperatures are higher during firing. Combustion is therefore more complete, eliminating soot and odors.

B&W Insulating Firebrick are the lightest weight refractories of their kind . . . for the cleanest, most odor-free oil heat. And their higher thermal efficiency, due to light weight, saves your customers as much as 25% on fuel.

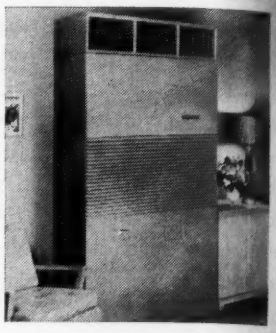
Send today for the
B&W FIREBOX HANDBOOK
a valuable guide for every installer



THE BABCOCK & WILCOX CO.
REFRACTORIES DIVISION
General Offices: 161 East 42nd St., New York 17, N.Y.
Works: Augusta, Ga.

Airtemp waterless and water-cooled redesigned packaged Airconditioners

AIRTEMP'S 1956 line of waterless and water-cooled packaged airconditioners have been completely redesigned to emphasize "Forward-Look" styling. Model 1008-2, pictured, is a water-cooled unit, featuring flush design; all packaged units, in sizes from 2 to 3 hp, are finished in natural spatter gray enamel.



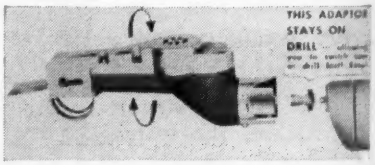
Airtemp now warrants the entire refrigeration system for five years, against failure due to manufacturing defect, including compressor, condenser, evaporator, expansion and shut-off valves, flexible connections and flexible union or relief valves. Airtemp also has introduced new lines of casement window, convention window and "built-in" conditioners.

Made by: Airtemp Div., 1600 Webster St., Dayton 1, Ohio.

Circle E15 on coupon, page 162

An improved Super Saw is placed on Market by R.C.S. Tool Corp.

NEW IMPROVEMENTS have been announced in the Super Saw by R.C.S. Tool Corp. A direct-drive coupling feature insures a positive, rigid, non-slipping connection between saw and drill chuck. The saw can be removed from drill so that drill can be used for other purposes.



External appearance and size of the Super Saw remains the same as before and new parts are interchangeable with those saws now in operation.

Made by: R.C.S. Tool Corp., 220 North Broadway, Joliet, Ill.

Circle E16 on coupon, page 162

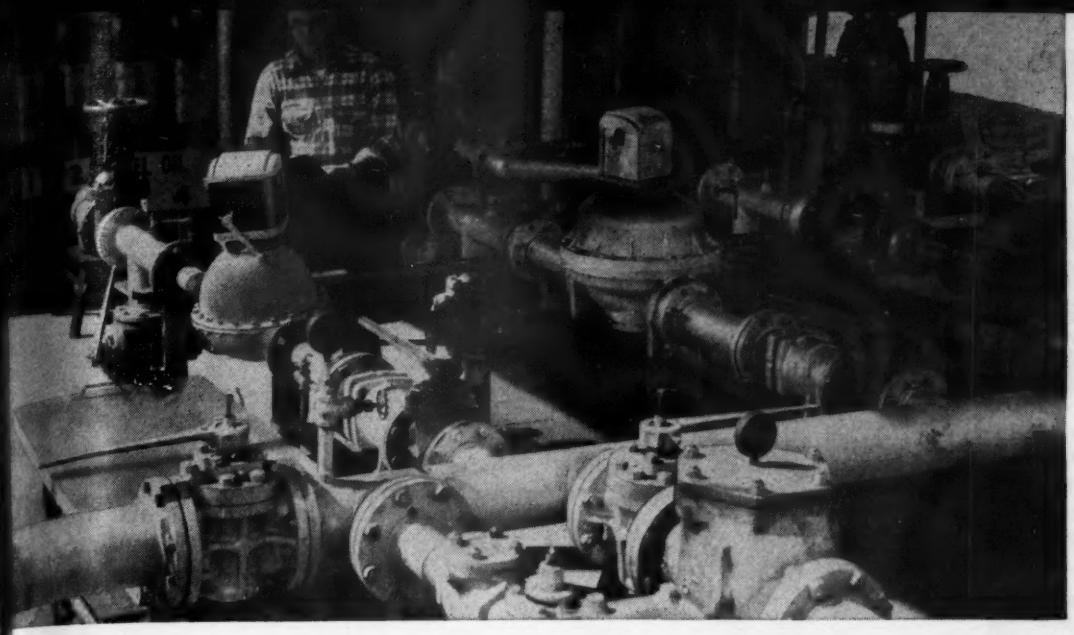
Aurora introduces condensation return Units with increased storage Capacity

TYPE HR APCO-MATIC condensation return units are equipped with larger receiver tanks than other models in the line and are for heating systems rated from 800 to 10,000 EDR and pressures up to 80 psi. Available in single and twin pump models, both are automatic in operation.

Pump and motor assembly is close-coupled, without shaft bearings and mounted on resilient synthetic rubber. Receiver is made of corrosion-resistant cast-iron.

Made by: Aurora Pump Div., New York Air Brake Co., Aurora, Ill.

Circle E17 on coupon, page 162



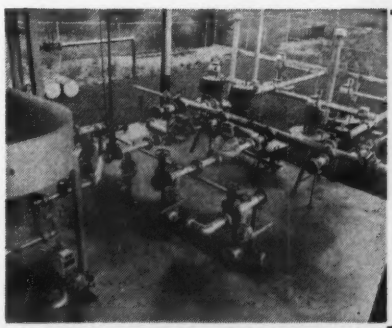
Simultaneous endurance tests can be run on several meters in this maze of pumps and pipes. At right of center is a new 4-in. 650 gpm. Red Seal bulk plant meter through which more than 35 million gallons have been pumped without appreciable change in calibration. Modern meter provers are shown in background.

What Neptune's Meter Proving Grounds Mean to You

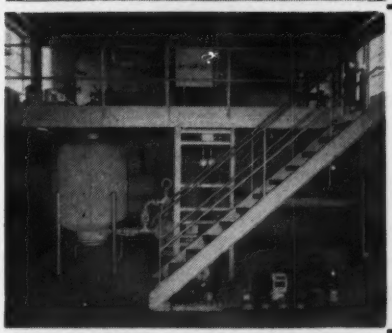
"Proving grounds" for petroleum meters had their beginnings many years ago, when Neptune engineers first devised "round-the-clock" endurance tests. By compressing the long lifetime of a meter into a relatively short time, every detail could be examined quickly and painstakingly for unsuspected weaknesses. Newest step in Neptune's continuing search for improvement is this Test Plant at Wallingford, Conn., capable of challenging the biggest meters made.

Red Seal users have benefited in many ways. For instance, early tests proved that wear . . . and meter inaccuracy caused by wear . . . could be controlled if machining techniques were developed to a higher degree of precision than existed then. The tests guided us in pioneering the required new machining techniques, gauging and quality control. They have helped develop many new materials, simpler, sturdier register mechanisms, high-flow Auto-Stop valves, and hundreds of other tested details. The results can best be summed up in Red Seal's nation-wide record for sustained accuracy and low maintenance.

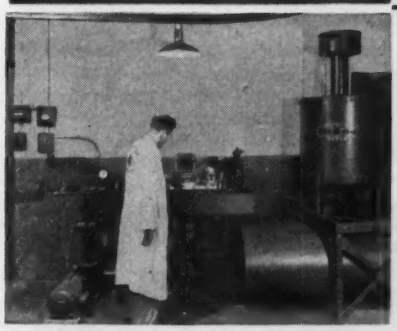
You can select with confidence Red Seal meters for all your tank trucks and bulk plants . . . for accuracy you can bank on.



Neptune's new Test Plant simulates actual conditions of petroleum bulk plants . . . it's practically a complete bulk plant in itself. With extensive mechanical and metallurgical testing facilities at Neptune's main factory, it gives Red Seal users benefits of finest liquid meter proving grounds in the world!



Accuracy, viscosity, pressure-loss, and other operating tests are being conducted continuously on this equipment inside the building. New engineering data will be helpful to you in selecting and installing Red Seal meters most efficiently.



Thirty of these Neptune testing units are strategically located throughout the country for checking and calibrating tank truck and bulk plant meters. They are supplemented by portable testing equipment. Though they don't serve a "proving grounds" function, they are vital in keeping your meters always on the job.

NEPTUNE METER COMPANY

19 WEST 50th STREET • NEW YORK 20, N. Y.

Branches in: ATLANTA • BOSTON • CHICAGO • DALLAS • DENVER
NO. KANSAS CITY, MO. • LOS ANGELES • LOUISVILLE • PORTLAND, ORE.
SAN FRANCISCO (Millbrae)

CANADIAN FACTORY: NEPTUNE METERS LTD.
1430 LAKESHORE RD., TORONTO 14, ONT.

neptune
RED SEAL METERS

INCREASE EQUIPMENT SALES
...cut down delivery costs

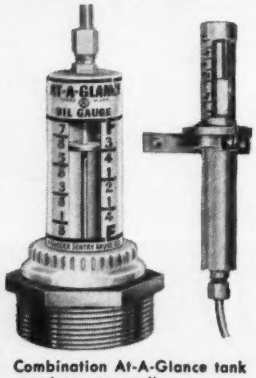
Sentry ODF* Tank Gauge tells drivers what they want to know at point of delivery!

"THAT LITTLE SENTRY GAUGE SURE SAVES US BOTH A LOT OF TROUBLE!"
TELLS WHEN OIL IS NEEDED
*Oil Dealer's Friend
. . . HOW MUCH IS NEEDED
. . . WHEN TO STOP FILLING
STOP FILLING
Sentry "ODF" remote reading gauge

ONLY Sentry OFFERS SUCH A COMPLETE LINE OF DIRECT AND REMOTE READING TANK GAUGES

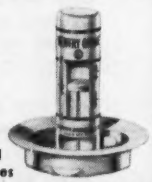
Above is SENTRY'S newest — The ODF At-A-Glance tank gauge that's setting new records in building sales and customer goodwill. Located outside of building at fill pipe, this easy-to-read weather-proof gauge shows the exact oil level in the indoor tank. Saves costly time consuming trips to basement, unnecessary hose unreeling and eliminates over-flow. Permits delivery without disturbing customer.

Other constant-register SENTRY gauges include combination tank and remote reading, barrel gauges, direct reading, and gauges for stove and space heater tank. Write today for full information about these fast moving business getters. Advertising aids available.

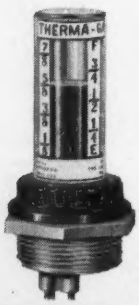


Combination At-A-Glance tank and remote reading gauges

Sentry stove and space heater gauges


Sentry At-A-Glance barrel gauges

Sentry At-A-Glance tank gauge



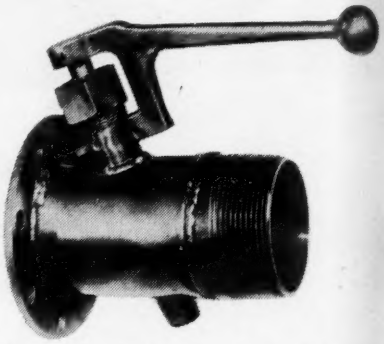
Sentry superior quality Therma-Gauge

On guard— 24 hours a day

KRUEGER Sentry GAUGES
GREEN BAY • WISCONSIN

Warren Ecliptic Valve for Use on petroleum tank Trucks, Transports

A LOW-COST, quick-acting valve for use on petroleum tank trucks or similar equipment has been announced by Betts Machine Co. Known as the Warren Ecliptic Valve, it is fabricated of a steel body with stainless steel stem, brass disc and trim. The seat is of composition material.



Valve weighs 7½ lbs. in the 3" size, the inside diameter of which is increased ¼" for better flow. Steel construction contributes to greater safety in case of accident or fire.

Made by: Betts Machine Co., Warren, Pa.

Circle E18 on coupon, page 162

Cam-Loc, roller ratchet Wrench, for tightening oil Lines made by TKF

CAM-LOC, is a one piece, open end roller ratchet wrench made by the TKF Co. It has been designed for working in awkward, hard-to-get-at places, and will fit over badly burred or heavily painted nuts.

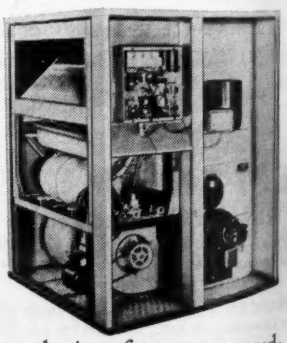
The wrench will not mar chrome fittings. Available in nine sizes ⅜" to 1". Useful in attaching oil filters and tightening oil lines.

Made by: TKF Co., Fisher Building, Detroit 2, Mich.

Circle E19 on coupon, page 162

Luxaire heating and cooling Unit provides 5 tons of cooling Capacity

A NEW LUXAIRE combination heating and cooling unit provides from a single cabinet 5 tons of cooling, 175,000 Btu input heating. Cabinet dimensions are: 51" wide, 50" deep and 68" high; bottom or optional rear air intake opening is 18" x 47" and the air discharge opening is 18" x 36".



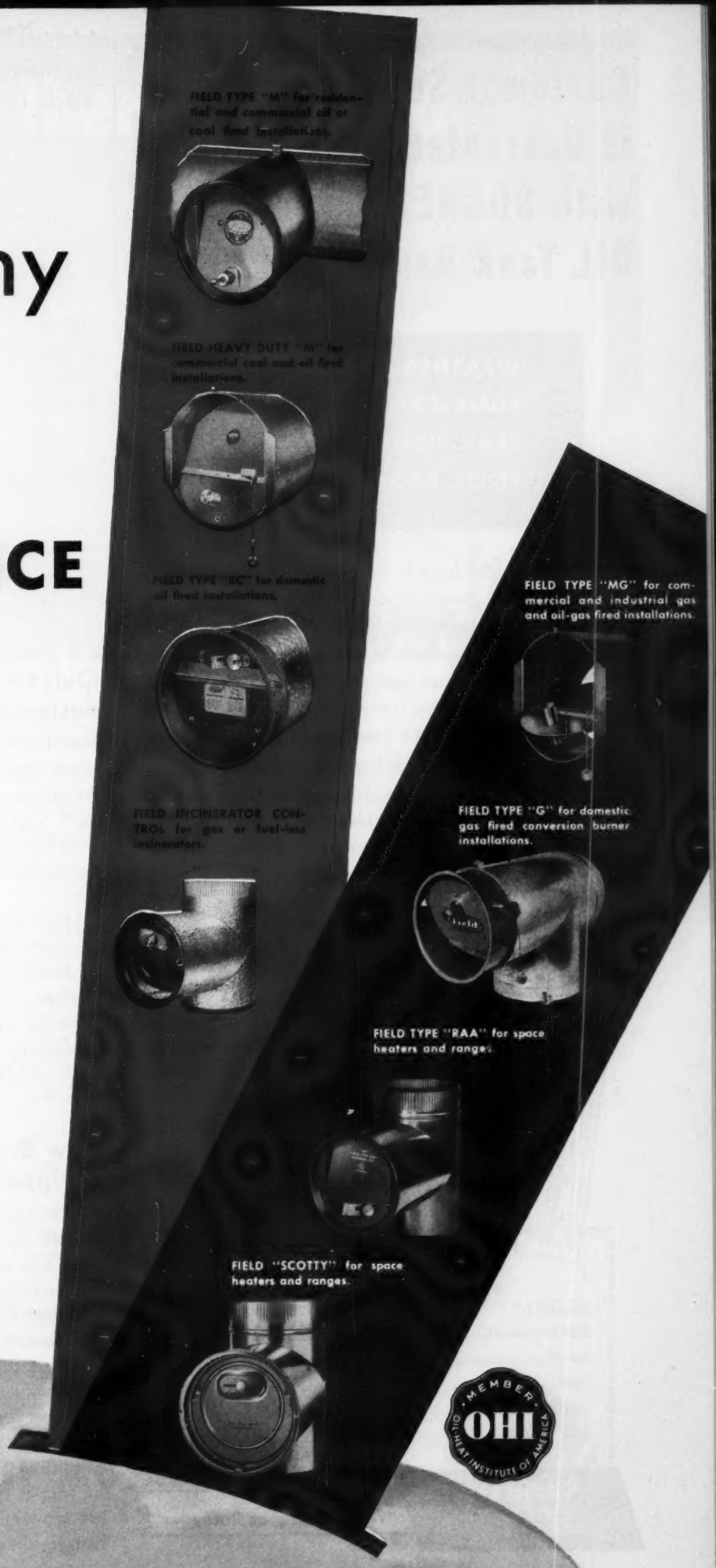
The cooling system is charged and hermetically-sealed at the factory and consists of a 5 hp hermetic compressor, capillary tube metering device, fin-on-staggered-tube cooling coil, water cooled shell and fin tube compressor and modulating, automatic water control valve.

Made by: The C. A. Olsen Mfg. Co., Elyria, Ohio.

Circle E20 on coupon, page 162

when every penny counts FIELD PERFORMANCE counts most of all

curate, trouble-free draft control
mportant to every size and type of
ating plant, whatever the fuel, whatever
price range. The low budget heating
nt can afford faulty control of drafts
st of all. And this is why dealers insist
t a Field Control be part of every
tallation—regardless of price range.
d today there's a Field Control
fit every heating budget.

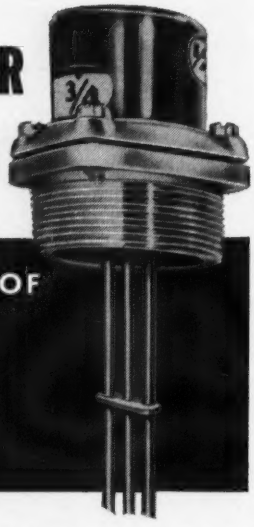

FIELD TYPE "M" for residential and commercial oil or coal fired installations.
FIELD HEAVY DUTY "M" for commercial coal and oil fired installations.
FIELD TYPE "RC" for domestic oil fired installations.
FIELD INCINERATOR CONTROL for gas or fuel-less incinerators.
FIELD TYPE "MG" for commercial and industrial gas and oil-gas fired installations.
FIELD TYPE "G" for domestic gas fired conversion burner installations.
FIELD TYPE "RAA" for space heaters and ranges.
FIELD "SCOTTY" for space heaters and ranges.

Field

ELD CONTROL DIVISION
D. CONKEY & COMPANY, Mendota, Illinois
CONCO BUILDING PRODUCTS, INC. • Brick, Tile, Stone
CONCO MATERIALS HANDLING DIVISION • Cranes, Hoists

MEMBER OIL HEAT INSTITUTE OF AMERICA OHI

Customer Satisfaction is Guaranteed with ROCHESTER OIL Tank Gauges



WEATHER-PROOF
FUME-PROOF
LEAK-PROOF
FOOL-PROOF

Pressure tight head is completely weatherproofed to make this gauge equally suitable for indoor and outdoor installations. There is no opening of any kind into tank, as the dial indicator works on an exclusive magnetic drive to make gauge fume-proof and give perfect reading at all times. Head is hermetically sealed to make it leak-proof, dust-proof and absolutely shock-proof. Safety factor far exceeds Underwriter requirements.

Don't take the chance of ruining an otherwise good installation . . . insist upon a Rochester Universal Gauge. It will pay off in customer satisfaction and overall profit. Sold at leading wholesalers everywhere.

FREE... OIL LEVEL CONVERSION SCALE

This simple pocket scale converts tank gauge indication into gallons. Provides installation and servicemen, or home owner, with quick oil level reading in actual gallons. Mail the coupon today for your FREE Conversion Scales.

ROCHESTER MFG. CO., INC.
8 Rockwood St., Rochester 10, N.Y.

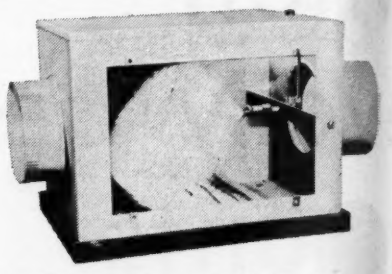
Gentlemen:
Please send ____ Oil Level Conversion Scales.
NAME _____
FIRM _____
ADDRESS _____
CITY & STATE _____

ROCHESTER THERMOMETERS GAUGES • SWITCHES

"You Can Rely on Rochester"

Lennox continuous-spray Humidifier adds up to 18 gals. of Water per Day

A HIGH-CAPACITY continuous spray humidifier introduced by Lennox is attached easily to any warm air furnace to add up to 18 gals. of water per day to the air. Humidity control is achieved with a manually-operated damper, which is self-regulating after it is once set. Amount of moisture is determined by the temperature and volume of furnace air.



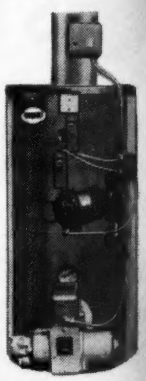
Warm air passes through the spray mist and a water-soaked filter; overflow water drops to a pan beneath the humidifier and then to a drain. Continuous operation of the spray nozzle washes away solid matter and minimizes build-up of solids; a strainer installed in the nozzle traps sediment before it reaches the orifice.

Made by: Lennox Industries, Inc., Marshalltown, Ia.

Circle E21 on coupon, page 162

Quiet Automatic releases boiler Units designed for the small or medium Home

FOUR OILFIRED boiler-burner units, pre-assembled and pre-wired, have been introduced by Quiet Automatic. Designated models 440-CWP, 510CWP, 640CWP and 880CWP Redi-Bilt units, they have been designed for the small or medium sized home.



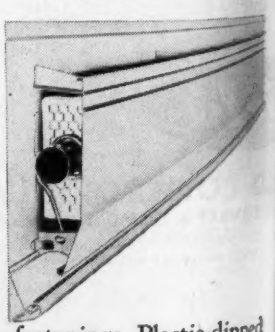
Units are ASME approved and equipped with tankless coils, pre-cast combustion chamber and Honeywell controls. A Quiet Automatic flanged oilburner fires the boilers.

Made by: Quiet Automatic Burner Corp., 17 Grove St., Montclair, N. J.

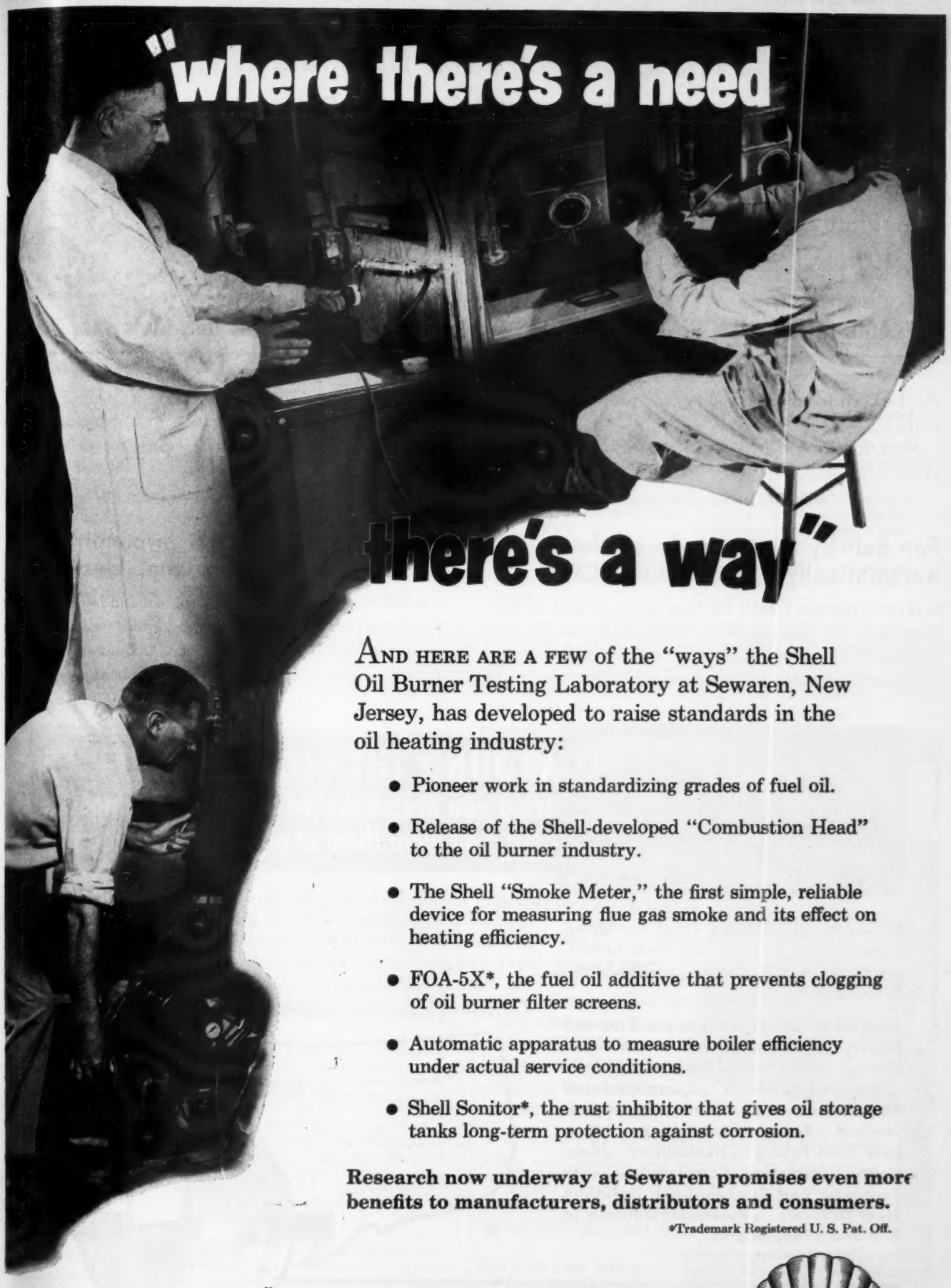
Circle E22 on coupon, page 162

New Brown baseboard Radiation equipped with built-in Dampers

A NEW LINE OF Bayco-Heet baseboard radiation is constructed of 1" copper tube in a completely restyled enclosure. The new units have a maximum depth of 2¼", can be recessed and are equipped with factory built-in dampers in each 8 ft. section.



These baseboards also have a hanger bracket that slips into precut slots in the back enclosure; the slots provide support at two points on the bracket without screws or other fastenings. Plastic-dipped hangers absorb expansion noise and holes for nails to secure



"where there's a need there's a way"

AND HERE ARE A FEW of the "ways" the Shell Oil Burner Testing Laboratory at Sewaren, New Jersey, has developed to raise standards in the oil heating industry:

- Pioneer work in standardizing grades of fuel oil.
- Release of the Shell-developed "Combustion Head" to the oil burner industry.
- The Shell "Smoke Meter," the first simple, reliable device for measuring flue gas smoke and its effect on heating efficiency.
- FOA-5X*, the fuel oil additive that prevents clogging of oil burner filter screens.
- Automatic apparatus to measure boiler efficiency under actual service conditions.
- Shell Sonitor*, the rust inhibitor that gives oil storage tanks long-term protection against corrosion.

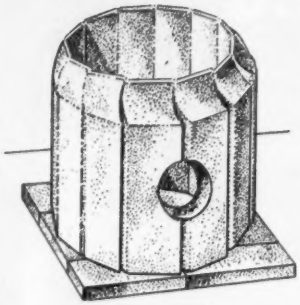
Research now underway at Sewaren promises even more benefits to manufacturers, distributors and consumers.

*Trademark Registered U. S. Pat. Off.

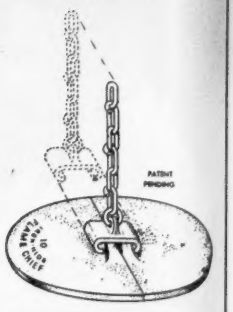
SHELL OIL COMPANY

SHELL

IRON-HIDE *presents the NEW* FLAME-CHIEF



Lightweight Adjustable Combustion Chamber made entirely of B. & W. K20 white, soft insulating fire brick. Super fast heating. Will stand temperatures in excess of 2400°. The new FLAME-CHIEF baffle: a thin white ceramic baffle, radiates luminous heat waves in seconds after burner starts. Easy to install. Self-locking — no bolting necessary.



We make a complete line of 30 models of precast chambers.

FLAME-CHIEF KILN FIRED PRODUCTS DIVISION: Iron-Hide Sales Co., Matawan, N. J.

the back enclosure to studding are pre-drilled on 16" centers.

Made by: Brown Products Corp., 97-12 Metropolitan Ave., Forest Hills, N. Y.

Circle E23 on coupon, page 162

Fan Belt by Dayton reduces Noise, automatically adjusts tension Level

A SELF-ADJUSTING V-BELT for fans, aimed at reducing belt noise and vibration, has been developed by the Dayton Rubber Co.

Called the Q.V.D. belt, the model is 17/32" wide, 9/32" thick, with a 40-degree V angle, and its neutral axis has been engineered to keep vibration to a minimum. Made of synthetic rubber and fabric.

Made by: The Dayton Rubber Co., Dayton, Ohio.

Circle E24 on coupon, page 162

Shaded pole Motor for airconditioning Applications made by Lamb Electric Co.

A SUPER SHADED POLE MOTOR, designed and built especially for airconditioning and air moving applications, has been announced by The Lamb Electric Co. Built in sizes from 1/35 to 1/4 hp.

Char-Gale

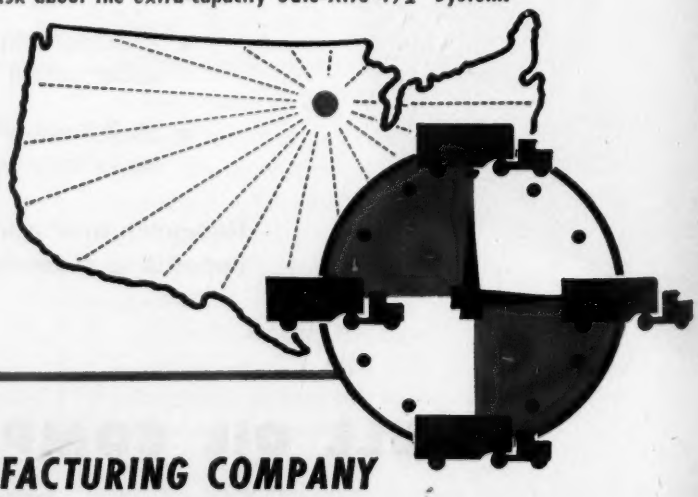
AROUND THE CLOCK DELIVERIES
Bring you prefabricated ducts and fittings... when you want them at prices you want to pay

Backed by 300,000 Sq. Ft. of Productive Capacity. From the huge Char-Gale factory, you can be sure of adequate supplies of the following items:

Aluminum Fittings • Aluminum Pipe and Elbows • Aluminum Sheets • Galvanized Fittings • Galvanized Pipe and Elbows • Galvanized Sheets • Complete Small Pipe Systems; both Aluminum and Galvanized • Seamed Heat Tubing • Button Lock Heat Tubing • Humidifiers • Rain Goods • Registers—Complete Line, both Perimeter and Conventional, including Floor Diffusers • Baseboard Diffusers in 2, 4 and 8 foot lengths.

Rapid, nation-wide delivery service by Char-Gale's own fleet of trucks means prompt movement of Char-Gale products direct to you. It reduces your inventories to save you money and space. And you benefit from ordering mixed truckloads.

Ask about the extra-capacity Gale-Aire 4½" System.



Char-Gale **MANUFACTURING COMPANY**
ANOKA, MINNESOTA

Only General Offers Both UNIT-TYPE or TWO-PIECE HUMIDIFIER

PRESENTING THE *NEW*

GENERAL UNIT-TYPE "200"

Profit Companion To The Two-Piece 250

For the first time, your customers can choose the *type* of humidifier — unit-type or two-piece — best suited to the construction, capacity and demands of *their* warm air furnace. Only General offers this choice in *one* line!

The new GENERAL Unit-Type "200" is the most compact, easy to install warm air furnace humidifier on the market. It features an *exclusive leveling feature* which eliminates time-consuming adjustments and makes installation a simple, *profitable* operation.

Many of the unique features recently introduced in the two-piece Model "250" (no floats or needle valves to stick or clog, elimination of a separate overflow line, easy visual check of evaporation) are available in the preassembled "200" *plus* the advantage of ceramic "porous weave" *Porosil* evaporating plates which offer far greater evaporating qualities for more efficient, trouble-free humidification.

Ask your jobber to show you the sensational Unit-Type "200" right away. Or write to General Filters, Inc. for details.

SMALLEST plenum opening bar none! Total dimensions just 3¼" x 3⅝"!

SIMPLEST of them all to install — in *either* straight or sloping plenums! No fiddling adjustments!

EXCLUSIVE automatic leveling feature! Adjusts *balance, water level, line pressure* in one operation!

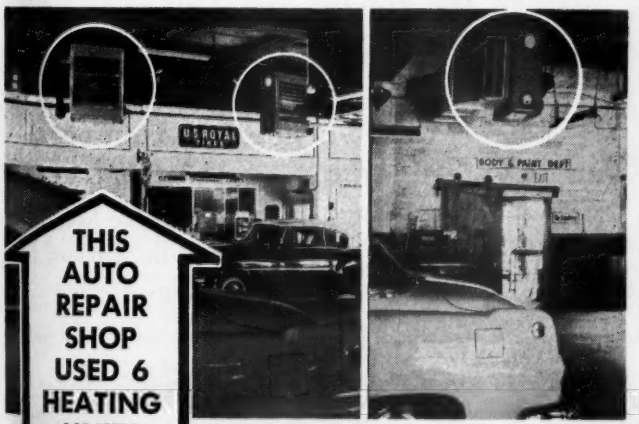
BUILT-IN diaphragm controlled nylon valve, water filter and overflow feature are one unit! Install it . . . service it preassembled with pan!

VISUAL CHECK of evaporation! Rate of drip from hydrant into standpipe indicates rate of evaporation!

STANDPIPE acts as overflow! No extra lines to install, no tapping into sewers!

ANOTHER OUTSTANDING PRODUCT OF GENERAL FILTERS, INC. [illegible] Grand River Avenue [illegible], Michigan

IN CANADA: Canadian General Filters, Ltd., 70 Cockfosd Blvd., Scarborough (Toronto 14), Ontario



THIS AUTO REPAIR SHOP USED 6 HEATING UNITS . . . *until 3* **Delta** OIL UNIT HEATERS took over!

PROBLEM: The 6 old-fashioned heaters in this Pontiac agency and repair shop were expensive to operate and required costly repairs quite often.

SOLUTION: 3 Delta oil-fired unit heaters replaced them. Installation was easy and cost surprisingly little because they required no boilers, pipes, fittings, valves, etc. They're factory wired and completely assembled . . . all ready to hang up.

RESULTS: The building was comfortable throughout the winter; no maintenance was required and operating costs were reduced 60%.

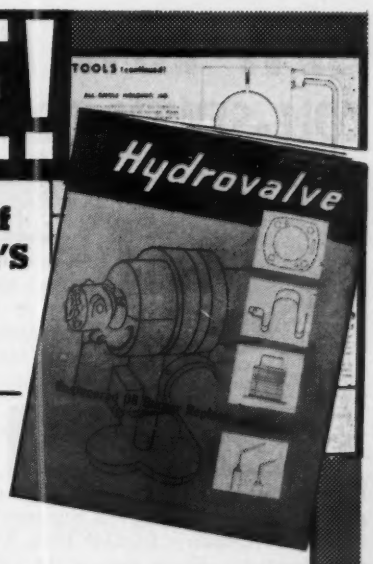
Send for complete new catalog F

This is only one of hundreds of jobs that a Delta Oil Unit Heater can do better and more economically.

DELTA HEATING CORPORATION
TRENTON 8, NEW JERSEY

AUTOMATIC HEATING

FREE!



Your copy of HYDROVALVE'S *NEW* CATALOG

This valuable catalog of Engineered Oil Burner Replacement Parts is a "must" for every man in the Oil Burner Servicing Field.

It is completely illustrated and shows you everything from gaskets and electrodes to dependable, long-lasting replacement parts for rebuilding fuel units and controls. It also features a complete line of specially designed money saving servicing tools.

Buy from your jobber . . . He serves you well!

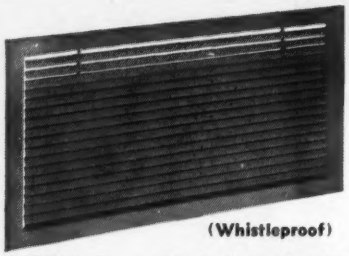
HYDROVALVE CO.
1319 Utica Ave., Brooklyn 3, N. Y.
BUckminster 4-1330

Write for your FREE catalog to-day! You'll be glad you did—

Name _____

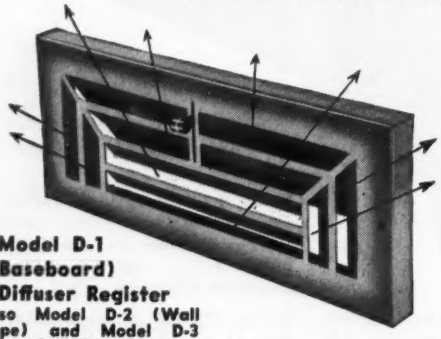
Address _____

City & State _____



(Whistleproof)

MODEL R — High Velocity, High Efficiency Return Air Grille. 89% Free Area. Any Size Desired.



SIZES:

10x4	12x4	14x4
10x5	12x5	14x5
10x6	12x6	14x6

Model D-1 (Baseboard) Diffuser Register

Also Model D-2 (Wall Type) and Model D-3 (Out-of-Wall Type)

Besides Diffuser Type registers the National Line includes all types and sizes of registers and grilles. **Write for Catalog.**

National GRILLE AND REGISTER CO.

3169 East 80th Street Cleveland 4, Ohio

NEW LOW PRICES on COLE-SEWELL DRAFT CONTROLS

MODEL 730

Standard Round

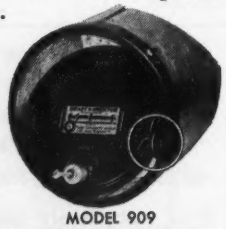
SULLIVAN STABILIZER

Gate control with or without universal sleeves. Open check type. Top or side mounting. Perfectly counterbalanced. Ball bearings. Stock sizes from 14″ to 36″. Special sizes on order.

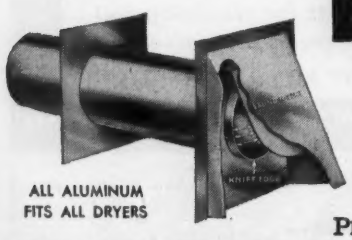
Standard Round

DRAFT KOREKTOR

Low price, positive action gate control designed specially for oil burners and stokers. Exclusive friction-free, knife-edge bearings. Stock sizes 7″ to 12″. 4″ to 6″ sizes for stoves and space heaters.



MODEL 909



ALL ALUMINUM FITS ALL DRYERS

The Original

LAUND-R-VENT

For any automatic clothes dryer. Vents moisture, lint, odors, etc., to outside. Easily installed. Friction free. Rust proof. Won't freeze. 3″ and 4″ sizes. Standard and special kits. SNAP LOCK PIPE or new flexible tubing.

COLE-SEWELL ENGINEERING CO.

2288 UNIVERSITY AVE. • ST. PAUL 14, MINN.

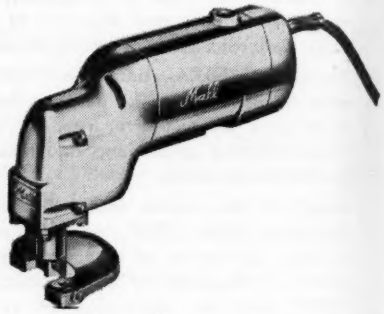
Has "uni-spun" stator frame for maximum rigidity; formvar insulated wire windings; "al-spun" aluminum rotor cage; and die-cast end frames. The finish is moisture and abrasion-resistant.

Made by: Lamb Electric Co., Kent, O.

Circle E26 on coupon, page 162

Mall electric metal Shears cuts Steel up to 16 Gauge

NEWLY-DESIGNED electric metal shears announced by Mall Tool are powered by a universal type motor and cut up to 16 gauge steel. Employing a die-cast aluminum housing, the tool features one hand operation, leaving the other free to guide the material to be cut. The shears can be disassembled without special tools and are equipped with expendable knives that can be replaced with carbide tipped parts, if desired.



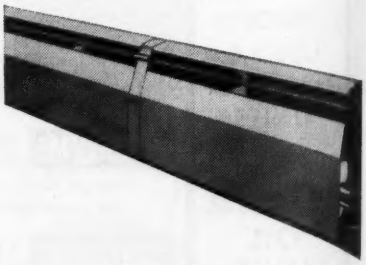
Stroke of the shears is 3/32″ long, 2500 strokes per minute, with clearance to cut up to .06″ thickness. Minimum radius of circle is 1″, but smaller diameters can be cut in softer and thinner materials by cutting counter-clockwise.

Made by: Mall Tool Co., 7725 South Chicago Ave., Chicago 19, Ill.

Circle E27 on coupon, page 162

Slant-Fin adds two heating Elements and cover Assembly to enlarged Line

TWO HEATING ELEMENTS and a cover assembly have been added to the Slant-Fin line, augmenting its standard line of steam and hot water heating baseboards. A BB-1 element combines 1″ nominal copper tube with aluminum fins; BB-2 elements are fabricated of 1″ nominal copper-bearing tube with steel fins. These I-B-R rated elements are furnished in stock lengths of 2, 2½, 3, 4, 5 and 6 ft.



The new type A cover assembly, designed as a functional enclosure for either of the new elements, incorporates factory-wilded support brackets. The covers, which permit increased stack height, come in pre-cut lengths of 2½, 3, 4, 5, 6 and 8 ft., for either flush or recessed installation.

Made by: Slant-Fin Radiator Corp., 87-49—130th St., Richmond Hill 18, N. Y.

Circle E28 on coupon, page 162

COMING TO YOUR TOWN WITH...

ANSWERS TO YOUR SPECIAL PROBLEMS

SERVICE SHORT CUTS

INSTALLATION IDEAS

...Webster's Caravan of Service

It's colossal! It's educational! It's helpful! It's fun!

Here "under one roof" Webster has assembled one of the most complete service laboratories you have ever laid eyes on. A laboratory complete with factory test equipment, an operating open-hearth fire, visible oil flow and a host of other interesting features.

A visit to Webster's **CARAVAN OF SERVICE** gives you not only an opportunity for an "inside view" of pumping, piping and ignition problems, but also to ask questions about your particular service needs. You'll get sound answers, too, for the **CARAVAN** will be manned by factory experts ready and eager to help you.

Sometime within the next few months the Webster **CARAVAN** will be in your town. Your authorized service station or heating equipment wholesaler will advise you the exact date. Watch for it . . be sure to visit it! You'll find it time well and profitably spent.

Wholesalers note: Contact us now for tentative dates when the Caravan will be in your area

WEBSTER ELECTRIC RACINE WISCONSIN

MANUFACTURERS OF FUEL-UNITS, IGNITION TRANSFORMERS AND DELAYTROLS

fueloil & oilheat

READER SERVICE COUPON

FUELOIL & OIL HEAT READER SERVICE
2 West 45th St., New York 36
REPLY CARD JANUARY
Mail Now—Card Expires March 31, 1956

Circle numbers of new product items on which you want more information:

NEW PRODUCTS

E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
E11	E12	E13	E14	E15	E16	E17	E18	E19	E20
E21	E22	E23	E24	E25	E26	E27	E28	E29	E30

ADVERTISEMENTS—Give page number and name of advertiser about whose products you want more information.

Page .....Advertiser .....

Your Name .....

Company .....**Position** .....

Street .....

City .....

Check Classification of principal dollar volume:
☐ Fueloil Dealer ☐ Parts and Equipment Jobber ☐ Manufacturer ☐ Manufacturer Employee ☐ Manufacturers Rep. ☐ Oilheating Dealer ☐ Other

Smog-Free, a portable air Filter, is manufactured by Radex Corp.

A PORTABLE AIR FILTER called the Smog-Free has been developed by the Radex Corp. to remove gases and odors from the air. The principle of the unit is the same as the wartime gas mask. The unit plugs into a wall socket.

Contaminated air is drawn through a 2" aluminum filter on the back of the cabinet. As air filters through the fine screen, dust is removed. The air then passes through the replaceable activated carbon filter which absorbs gases, odors and other vapor-like impurities.

Made by: Radex Corp., 2076 Elston Ave., Chicago 14.

Circle E29 on coupon, this page

Fuelguard new Additive for Distillates announced by Carlisle Chemical Works

FUELGARD IS AN additive that prevents clogged filters and burner elements by preventing gum and sludge formation in No. 2 fueloil. It is made by the Carlisle Chemical.

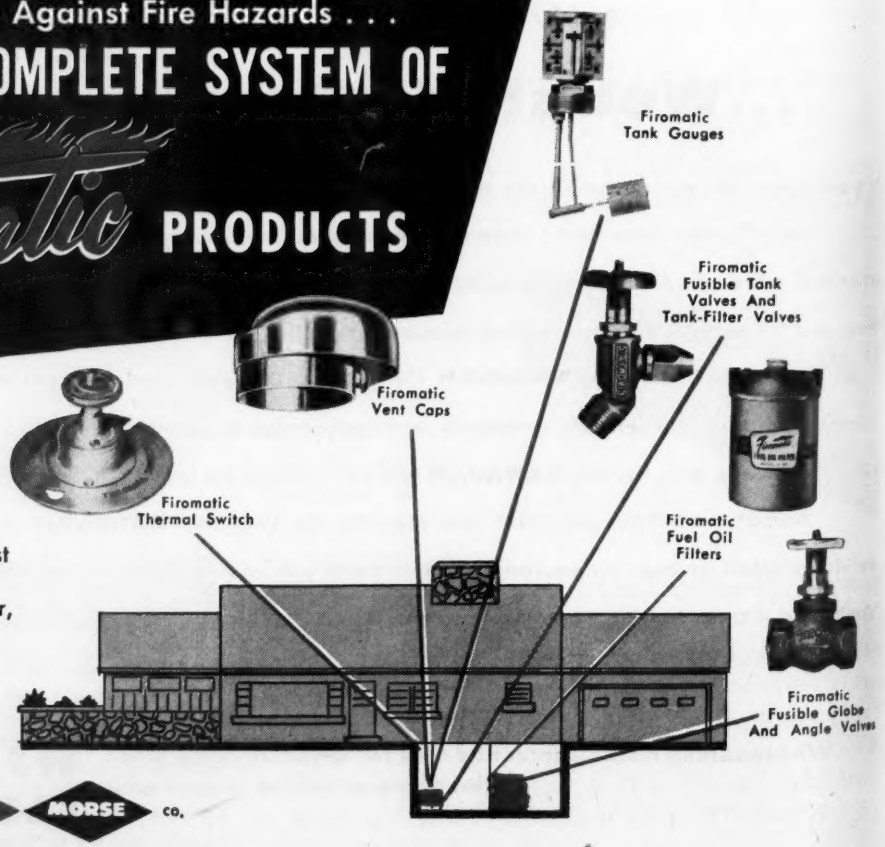
It is an ashless additive and does not contribute a fire bowl build up. The additive provides rust and corrosion control where condensation has collected in storage tanks. Does not disperse or emulsify water in oil.

Made by: Carlisle Chemical Works, Inc., Reading, Chio.

Circle E30 on coupon, this page

For Positive Protection Against Fire Hazards . . .

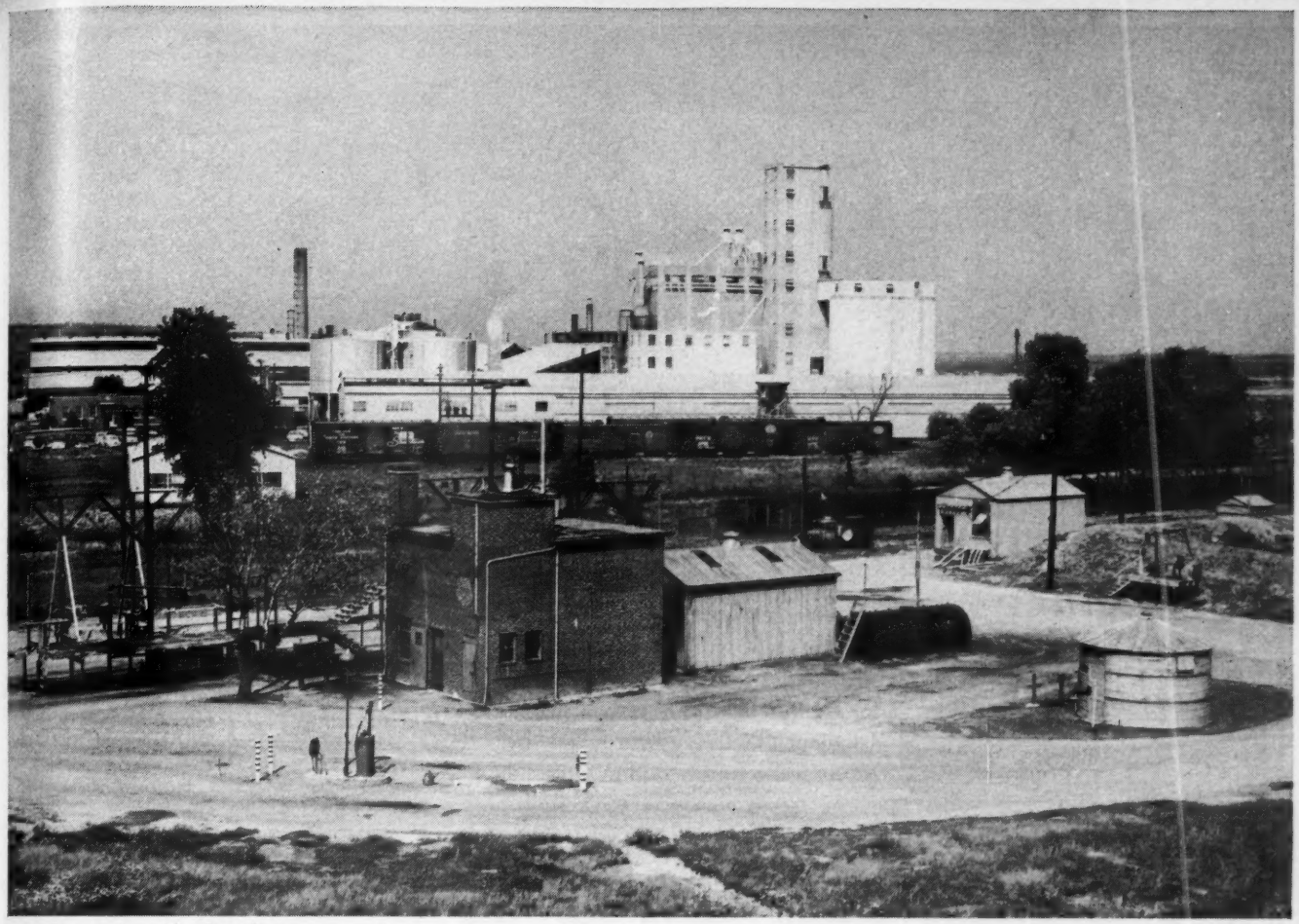
INSTALL THE COMPLETE SYSTEM OF Firomatic PRODUCTS


Firomatic Tank Gauges
Firomatic Fusible Tank Valves And Tank-Filter Valves
Firomatic Vent Caps
Firomatic Thermal Switch
Firomatic Fuel Oil Filters
Firomatic Fusible Globe And Angle Valves

Every Firomatic product is designed to do a specific job, and when installed together in a fuel oil heating system, provide the best protection possible against fire hazards.
To both the jobber and the installer, the famous Firomatic line offers a substantial profit on every product . . . trouble-free performance . . . and ease of installation. Sold nationally by jobbers only.

THE MORSE SMITH MORSE CO.

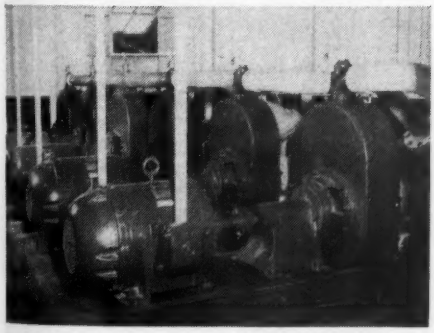
165 Dexter Avenue • Watertown, Mass.



Loading racks at the Sico Company can top a 4,000 gallon tank truck in 10 minutes.

Over 40 Million Gallons of Petroleum Products Per Year!

PUMPS AT WILMINGTON PLANT INCREASE OUTPUT — GET LOWER MAINTENANCE!



Six Marlow 4-inch, self-priming centrifugal pumps handle over 40 million gallons per year.

Storage tanks at the Sico Company deep-water terminal have a capacity of 17 million gallons

THE SICO COMPANY, one of the largest independent petroleum product distributors in the East, operates a deep-water terminal at Wilmington, Delaware. This terminal serves 14 company-owned bulk plants located in the Pennsylvania area and many other independents not having plants.

The terminal itself has an above-ground storage capacity of 17,000,000 gallons. Plagued with constant maintenance of their rotary pumps, Sico installed six Marlow 4" self-priming centrifugal pumps back in 1950 and doubled their pumping capacity. To date, only minor maintenance has been required on these self-priming pumps. Each of the new pumps has a capacity of 395 to 480 gallons per minute, according to the head in the tank, and *will top off a 6,500-gallon tank truck in less than 16 minutes!* Two of the pumps handle fuel oil, two handle regular gas, one handles Ethyl gas and one handles kerosene. During the course of a year, these pumps handle 40 million gallons with high-speed efficiency and extremely low maintenance.

If you want to increase your capacity and decrease your maintenance problems, modernize your plant with Marlow pumps. For free literature and the name of your Marlow dealer, write Marlow Pumps, Ridgewood, N.J.

Marlow PUMPS

5-267

MARLOW PUMPS

Division of Bell & Gossett Company

RIDGEWOOD, NEW JERSEY

Morton Grove, Illinois Longview, Texas

In Canada:

PUMPS & SOFTENERS LTD., LONDON, ONTARIO

Manufacturers Activities

Carrier Head foresees another record Year for Aiconditioning

CLOUD WAMPLER, chairman and president of Carrier Corp., Syracuse, N. Y., spoke recently at a preview of a new line of "Winter Weathermaker" forced warm air heating units and 1956 room airconditioners. He predicted the airconditioning industry in 1956 will break all previous records for the seventh consecutive year, with total retail sales nearing $3.2 billion.

Biggest percentage growth, Wampler feels, will again come in the residential field, with central airconditioning installations in homes increasing to about 200,000 a year. And, by 1960 central comfort conditioning should be in use in well over ½ million homes annually, he continued, with an increase to 1,150,000 anticipated by 1965. As a matter of fact, Wampler said the number of such systems installed annually 10 years hence will be about the same as the number of furnaces installed in 1955.

Wampler also stated that the coming 12 months probably will be the year "of the great break through in airconditioning of residences" and that expected gains in complete home airconditioning will bring about changes in the residential heating business. In the next few years the key phrase will be "easy convertibility" to year-round comfort. "Heating," Wampler continued, "is becoming simply a phase of all-season airconditioning."

Room airconditioner sales during 1955 jumped to about 1,400,000 units and Wampler predicted that in 1956 about the same volume would be reached with normal weather.

Hago Poducts moves Offices to Mountainside, New Jersey

HAGO PRODUCTS has a new address at 1120 Globe Ave., Mountainside, N. J. The manufacturer of a line of oilburner nozzles was formerly located at 1281 Springfield Ave., Irvington, N. J.

The new plant has increased facilities which will enable the company to offer better and faster service to its customers.

Heating, Airconditioning Sales to be high in '56 says Coleman

AT THE ANNUAL MEETING of distributors Sheldon Coleman, president, Coleman Co., Wichita, Kans., predicted that the boom in home modernization plus new construction will make 1956 one of the biggest growth years in the

HOLD Everything FOR THE BIG J COMING SOON!

SEAL WITH RECTORSEAL No. 2 and THE JOB IS DONE

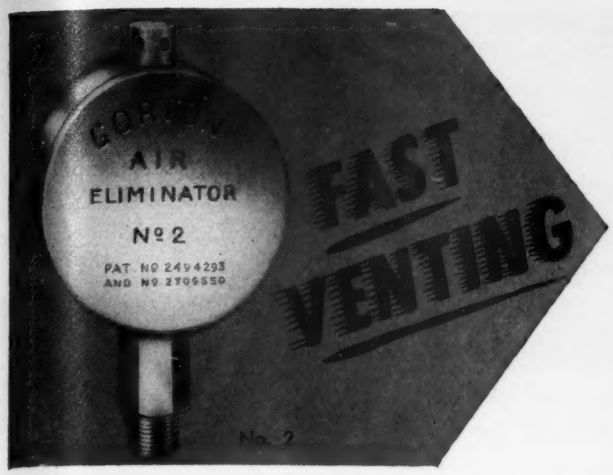
• NO CALL BACKS
• NO DISGRUNTLED CUSTOMERS

Seal it and forget it. That's the true story of fuel-oil connections when Rectorseal No. 2 is the compound used. There's never any costly maintenance problem due to leaking. Rectorseal No. 2 forms a positive leak-proof connection even against jarring, vibration, or temperature changes. Yet, joints are always easy to break-out. Clean, easy-to-use Rectorseal No. 2 is thin in the can—thickens in the joint for maximum sealing efficiency. With this superior performance Rectorseal goes farther because of its smooth consistency—actually costs less to use. Why not give Rectorseal No. 2 a chance to show you the sealing job it can do.

Write for a generous Free Sample of Rectorseal No. 2.

RECTORSEAL, Dept. O
2215 Commerce Street, Houston 2, Texas

RECTORSEAL NUMBER TWO



GORTON VALVES

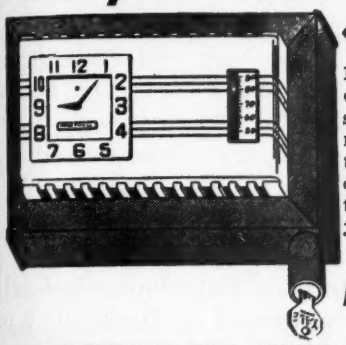
ESTABLISHED 1887

Available in 5 sizes for proper venting and balancing of each radiator, and two sizes for venting mains. There is a Gorton Valve that's just right for every radiator.

Ask your wholesaler.

GORTON HEATING CORP., CRANFORD, N. J.

Ask your Counter-man for these THERMOLOK Time-Savers

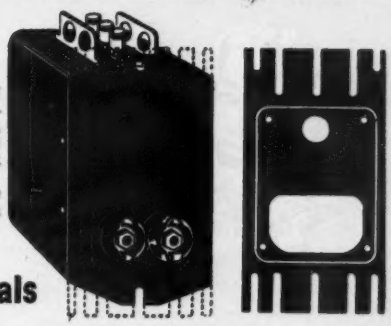


THERMOLOK
Thermostat Locks.

Every church, gym, apt., industrial plant, etc., has been seeking this foolproof lock—not a chance to change the thermostat setting unless one has the special "Yale" type key. Easy to install—just slip it on and turn key.

KLIP-ON
Universal Ignition Transformer Plate.

You can use the KLIP-ON on over 100 makes of burners. Four spring steel clips fasten KLIP-ON universal plate to transformer without removing transformer plate. A MUST in every service man's truck! Cuts down your inventory.



Exclusive National Distributors for

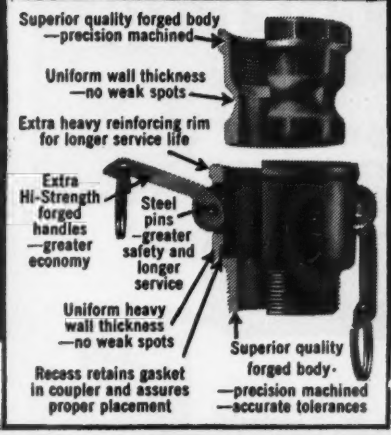
ACE FILL-O-MATIC Whistling Fill Signals

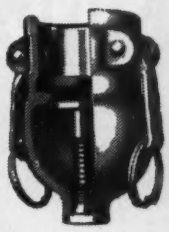
Write for full information

THERMOLOK MFG. CO. INC., 541 Rogers Avenue, Brooklyn 25, N. Y.

It pays to get EVER-TITE *Quality* in Quick Couplings

There's an EVER-TITE for every need


Superior quality forged body —precision machined
Uniform wall thickness —no weak spots
Extra heavy reinforcing rim for longer service life
Extra Hi-Strength forged handles —greater economy
Steel pins —greater safety and longer service
Uniform heavy wall thickness —no weak spots
Recess retains gasket in coupler and assures proper placement
Superior quality forged body —precision machined —accurate tolerances



EVER-TITE Couplings give you a quick, tight connection every time—under every condition. They make your deliveries fast . . . safe . . . dependable. Ever-Tite Couplings are manufactured of stainless steel, bronze, aluminum, steel and malleable iron.

It pays to get EVER-TITE quality—the top value in quick couplings. Ask your distributor now for full details.

EVER-TITE COUPLING CO. INC.
254 W. 54th St., New York 19, N. Y.

ELECTROL

SINCE 1918

A Complete Line of Oil Heating Equipment

A FEW DESIRABLE TERRITORIES OPEN

Write for details

ELECTROL BURNER MANUFACTURING CO., INC. • 22 UNION AVE., RUTHERFORD, N. J.

history of the heating and airconditioning industry.

He expects 300,000 central station year 'round airconditioners to be installed, a gain of 50,000 over 1955.

Coleman has three key programs to increase its share of the total market: A dealer development program; an in-season, as well as special promotions, with more emphasis on local advertising and point-of-purchase materials; the introduction of new products especially designed for the home modernization market.

Shown for the first time at the meeting were a new oil floor furnace and a new oil-fired space heater.

Kansas City district Office is moved by General Controls

NEW AND LARGER facilities for the Kansas City District office have been opened at 2904 Oak St. by General Controls Co., Glendale, Calif.

The company maintains 40 branch offices and factories in Glendale, Burbank, Calif., Skokie, Ill., and Iron Mountain, Mich.

All fuel oils are *not* alike – and today's fuel oil users know it. Only Sinclair Anti-Rust Fuel Oil gives the extra protection of RD-119® – *at no extra cost!*

Used regularly, this top-quality fuel oil protects against rust-clogged filters and burner nozzles – assuring greater customer satisfaction – and fewer service calls. Your benefit: good-will that comes from pleased customers, and greater profit that comes from lower service costs. For more customers, and more good-will, switch to Sinclair Anti-Rust Fuel Oil today. For more information, write to Sinclair Refining Company, 600 Fifth Avenue, New York 20, N.Y.

SINCLAIR ANTI-RUST FUEL OIL

With RD-119® – So *Different it's Patented!*

Sid Harvey Inc. purchases Mid-Way Burner Parts Co.

SID HARVEY, INC., Valley Stream, N. Y., has purchased the inventory, machinery, furniture and fixtures of the Mid-Way Burner Parts Co., Pleasant Valley, N. Y., according to Sid Harvey, president.

Edward R. Sweeney and Henri Velon, the former owners, will continue to operate the business, but as a branch of Sid Harvey Westchester Corp.

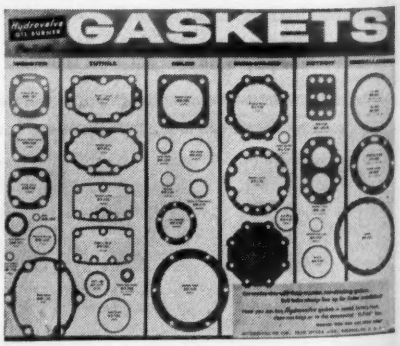
Eureka Williams appoints Lefton Co. as Ad Agency

THE AL PAUL LEFTON CO., INC., Chicago, New York, and Philadelphia, has been appointed by the Eureka Williams Co., Bloomington, Ill., as advertising agency to handle advertising for Eureka vacuum cleaners and Williams home heating products.

Waterman-Waterbury wholesale Office opened in Madison, Wis.

A NEW WHOLESALE OFFICE has been opened by Waterman-Waterbury Co., Minneapolis, to serve the southern Wisconsin area. Called the Waterbury Heating Supply Co., the Madison office will be headed by Arthur R. Rees.

The warehouse will carry all Waterbury warm air heating and cooling equipment, and a complete line of pipes, fittings, registers and repair parts.



A reference chart, *designed to save oilburner servicemen time, is being offered free by Hydrovalve Co., 1319 Utica Ave., Brooklyn 3, N. Y. The chart includes actual size diagrams and information on gaskets most frequently requiring replacement. It measures 17" x 22" and may be hung on a wall or carried in the service kit.*

A 45-foot tractor trailer *is the nucleus of promotion program of Straus-Frank Company's, Dallas wholesaler for Worthington Corp., Harrison, N. J. The rolling display enables the company to take the packaged line of air-conditioning equipment right to its dealers, prospective dealers and builders.*

The trailer has been touring Texas and when the current "Operation Roadshow" is completed the equipment will be used in service schools for live demonstrations and participation meetings.

Revised Base-Ray ratings Guide issued by Burnham

BURNHAM CORP., Irvington, N. Y., has just issued a revised edition of Base-Ray Ratings and Installation Guide. The booklet covers No. 9 Base-Ray rated at 3.5 sq. ft., and No. 7 Base-Ray, rated at 2.35 sq. ft.

A two page section is devoted to comprehensive tables giving I-B-R ratings in Btu/hr at various water temperatures. Instructions for installing the equipment are illustrated with pictures and drawings. Copies are available from the company.

Supplier-Distributor Problems discussed at Atlantic Meetings

MEETINGS are being scheduled between the Atlantic Distributor Advisory Committee and distributors of the Atlantic Refining Co. The committee met recently with company management in Philadelphia to discuss supplier-distributor problems.

Subjects discussed at that meeting will be presented to the distributors. W. H. Van Voast, Tryon Oil Co., Johnstown, N. Y., was chairman of the Philadelphia meeting.

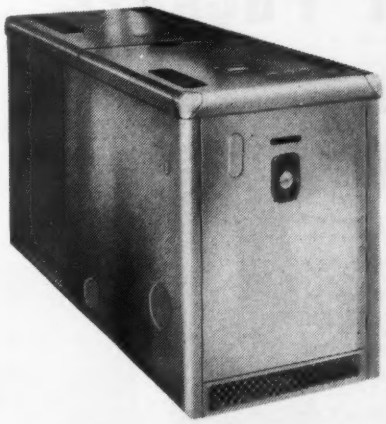
C. A. Dunham publishes Manual on hot water heating Systems

AN APPLICATION manual for high temperature, high pressure, hot water heating systems has been published by C. A. Dunham Co., Chicago. Design, installation and maintenance data are included in manual 2685.

Drawings, charts, graphs and tables amplify the text. A copy can be obtained by writing the company, Dept. 1, 400 W. Madison, Chicago 6.

Sell the HEALTHIEST MOST ECONOMICAL HEAT Known

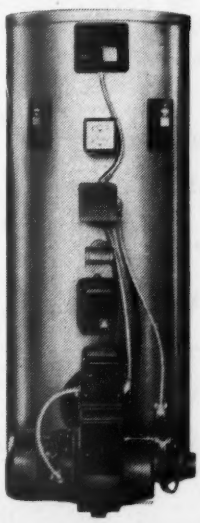
WET HEAT by Bethlehem



A THOROUGHLY ENGINEERED PACKAGE UNIT FOR EVERY SIZE OF HOME . . .

DYNATHERM
for the Large Home.

CRUSADE-A-THERM
for the Average Size Home.

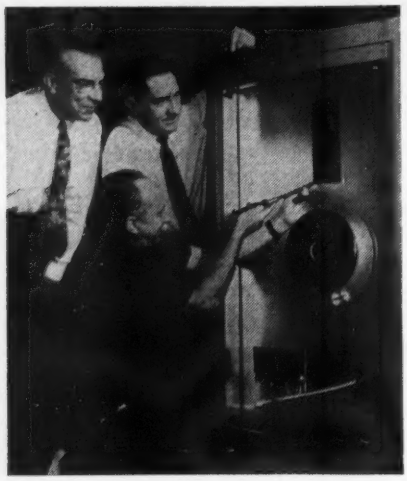


BETH-PAK
for the Small Home.

All Three Units are completely assembled and tested at the plant, thereby reducing installation cost, and assuring dependable service.

A few exclusive Bethlehem Territory Franchises are still available. Wire or write immediately for literature and full information.

BETHLEHEM FOUNDRY & MACHINE COMPANY
225 WEST SECOND STREET • BETHLEHEM, PENNA.



T. A. Crawford *(left), vice-president in charge of Timken sales, and A. V. Murray, Scaife president, look on as H. M. Wittkoop, assembly line employee, attaches the name plate to the first Timken unit off the new production line at Oakmont, Pa.*

Scaife's Oakmont Plant now manufacturing Timken Units

OILFIRED home heating equipment bearing the Timken Silent Automatic label is coming off a new production line at the plant of the Scaife Co., Oakmont, Pa., near Pittsburgh.

Scaife bought Timken from Rockwell Spring and Axle Co. on April 1, and since then has transferred machinery, tools and key plant personnel from Utica, N. Y., to Oakmont. Administrative personnel and records were moved from Jackson, Mich.

Until recently, Scaife has concentrated its activity on the manufacture of movable and stationary gas cylinders and ordnance items. Timken will continue to make forced circulation warm air furnaces; conversion oilburners; oilfired boilers, and a line of oilfired water heaters. Airconditioning equipment to be used with oilheated furnaces also will be produced.

Larger Building is built by King Engineering Corp.

KING ENGINEERING CORP., Ann Arbor, Mich., has built and moved to a new building at 3201 S. State St. The company manufactures manometers, liquid level gauges and glow meters.

The building doubles the company's floor space, providing ample office, engineering and laboratory areas.

FREE . . . FREE
1 Pound Trial Package

E-Z SOOT DESTROYER

For FUEL OIL SOOT Only

When you see how completely one application of E-Z Soot Destroyer removes fuel oil soot you'll always use it. It will save you hours of time and make cleaning jobs profitable instead of a nuisance. Your customers will be happier too, because E-Z Soot Destroyer does an efficient cleaning job without fuss or muss. And for extra profits, sell E-Z Soot Destroyer to your customers . . . there's a liberal dealer discount.

No. 1 Pkg. (1 lb.) Retail Price — $1.50

No. 5 Pkg. (5 lb.) Retail Price — $6.25

Special discount to jobbers on quantity purchases.

Mail the coupon TODAY for your FREE TRIAL PACKAGE

NORMAN CHEMICAL CO.
1700 Roblyn Ave., St. Paul 4W, Minnesota

Please send One Pound FREE TRIAL PACKAGE of E-Z Soot Destroyer and the name of my nearest jobber.

Name .....

Address .....

City ..... State .....

BIG J
IS ON THE WAY!
with great, new profit potential
FOR YOU!

Don't miss it!

FIL-O-MATIC

TANK SIGNAL

Whistles While Tank Is Filling...
Stops Automatically When Tank Is Full!

Fast Action Air Release — Exclusive by-pass design eliminates danger of pressure-shocking tanks.

New Improved Design — engineered for years of trouble-free performance. Unconditionally guaranteed against all defects.

Lowest Cost — and it pays for itself after the first few deliveries.

Made of high-grade gray cast iron. Universal design—for 1¼" and 2" tank openings—and 1¼" vent pipe. For all tanks whether horizontally or vertically mounted.

See your local jobber or write for literature.

Distributor territories available.

Bonded against patent infringements.

Patent Pending

A.C.E. ACCESSORIES
Division of Kresno-Stamm Manufacturing Co.
Palisades Park, N. J.

McCORKLE CONTROLS
FOR VAPORIZING OIL BURNERS

GIVE SERVICE NOT REQUIRE

Less service means greater customer satisfaction—increased profits—more new business

- **Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of extra power.**
- **More rapid heat transmission.**
- **Adjustable snap acting Micro-switch.**
- **Heavier, more rugged construction.**

D. H. McCORKLE CO.
BOX E, STATION A • BERKELEY, CALIFORNIA

✓ FEWER EMERGENCY CALLS FOR YOU

RENEW FILTER Signal warns in advance of furnace troubles developing from dirt-clogged air filters—eliminates the most common cause of service complaints.

✓ BETTER HEATING FOR YOUR CUSTOMERS

RENEW FILTER Signal tells when it's time to replace dirty filters—guarantees clean, comfortable heat at all times; worthwhile savings on fuel and cleaning bills; protection against furnace damage.

Bacharach FILTER GAUGE

Fits all types of heating and cooling units.

Accurately adjustable for any kind of replaceable or washable filter.

Easy to install. Drill 4 holes and mount—no connection across filter—no electrical connections.

Suggested Retail Price, $6.35 plus installation charge.

ASK YOUR JOBBER OR WRITE FOR LEAFLET FG-4

BACHARACH INDUSTRIAL INSTRUMENT CO.
FG-4a **7301 PENN AVENUE • PITTSBURGH 8, PA.**

BOSTON DRAFT STABILIZER
WORLD'S MOST ACCURATE DRAFT CONTROL

GUARANTEES CONSTANT DRAFT
and protects your heater against draft variables that destroy efficiency!

NOW AVAILABLE
in 6", 7", 8", 9" and LARGER SIZES up to 24".

All available with or without TEE section.

TOPS in ability to hold draft yet the EASIEST to install.

NO WEIGHTS TO ADJUST
Can be properly set, even without instruments.

OPERATE YOUR HEATER AT PEAK EFFICIENCY WITH ACCURATE DRAFT CONTROL

BOSTON DRAFT STABILIZER

1. Slows down travel of gases thru the heater to a desired CONSTANT speed so heater can absorb the heat before it reaches the stack.
2. Holds a constant draft because variations in draft-pull result in changes of air delivery from the burner fan, causing changes in smoke content and CO_2 of your combustion.

Write for complete details

BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

A new T-shaped, *four-story office building will be occupied by the Philadelphia Sales Division, Gulf Oil Corp. Of contemporary design, the new building will contain 125,000 sq. ft. and will be located on a five-acre tract at the intersection of City line Ave. and the Schuylkill Expressway. The Division is presently located at 1515 Locust St.*

FUEL-TRON®...

the amazing new product that

REMOVES the CAUSE of FUEL OIL TROUBLES

NEW . . . IMPROVED
SOLDER SEAL
FUEL-TRON
QUALITY PRODUCT
FUEL OIL CONDITIONER
KEEPS OIL BURNERS AND STORAGE TANKS CLEAN
REMOVES WATER AND SLUDGE PREVENTS RUST
ADD TO FUEL OIL OR KEROSENE IN HEATING AND COOKING UNITS

. . a good PRODUCT for your customers

FUEL-TRON really works . . . because it removes the cause of trouble in oil burners, tanks and lines.

- **Removes water and sludge**
- **Prevents rust, corrosion**
- **Keeps burners and tanks clean**
- **Saves fuel and servicing**

. . . a GOOD PROFIT for the dealer!

CHECK YOUR COST AND YOUR PROFIT

Size	To Case	LIST Price	Dealer COST	Dealer PROFIT
Pint	24	1.19 ea.	17.14	11.42
Gal.	6	6.50 ea.	23.40	15.60

PLUS

FREE LOCAL ADVERTISING *of dealer's own choice!*

THIS CERTIFICATE, WORTH $1.50 in advertising, is packed with every case of FUEL-TRON. Dealer may use it in either individual ads, or in combination with other items in his regular local advertising.

Manufactured by
RADIATOR SPECIALTY CO.
1700 Dowd Road • Charlotte, N.C.
In Canada: Radiator Specialty Co. Ltd., Toronto

UNARCO President predicts 60% of Homes will have Cooling

APPROXIMATELY 60% of the homes in the United States will have year 'round airconditioning within ten years was the prediction Edwin E. Hokin, president, Union Asbestos & Rubber Co., Chicago, made at the closing session of a two-day sales meeting of company representatives in Chicago.

He pointed out that less than 4% of the homes have any type of airconditioning now despite the spectacular rise in sales of cooling equipment.

The company's 1956 line of heating and airconditioning equipment was previewed at the meeting which was the first of three scheduled. Other regional gatherings were held in New Orleans and Atlantic City.

In addition to Hokin, Peter B. Colwin, assistant general sales manager; R. M. Anderson, sales manager, Cooling Division; and W. K. Smith, sales manager, Heating Division; attended the meeting.

Airconditioning, Research Staffs expanded by Rheem

RHEEM PRODUCTS DIVISION, Rheem Manufacturing Co., Chicago, has expanded the staff in the airconditioning and research and development departments.

A. D. Lutgens will participate in research and development activities on warm air furnaces, airconditioning and appliances. E. F. Searight will be in the same department also working on warm air furnaces. R. J. Evans has been assigned to work on airconditioning equipment.

Additions to the airconditioning organization include Paul J. Fetzek, now product specialist in the Chicago region; Walter M. Morand, specialist on the West Coast; and L. David Stacy, Houston region.

La Crosse and Scranton Plants will be enlarged by Trane Co.

TWO ADDITIONS planned for completion during the first six months of 1956 are under construction at the La Crosse, Wis., plant 4, and Scranton, Pa., plant of The Trane Co.

The added space will make the La Crosse plant the largest of the company's units and will be used for the manufacture of centrifugal refrigeration compressors, packaged water chilling units and unit airconditioners.

The Scranton addition includes facilities for the fabrication of year 'round room airconditioners. Until recently the entire Scranton production was heating equipment.

Airtemp to enlarge sales, service training Program

AN ENLARGED sales and service training program will be sponsored during 1956 by the Airtemp Division, Chrysler Corp., Dayton, O. The staff of the training department has been increased by seven to carry out the program.

According to J. A. Clarke, manager of sales training, a minimum of 100 major schools will be held throughout the country under the direction of factory personnel. Airconditioning and heating dealers and their sales and service staffs will attend.

Several types of schools will be offered to cover the sale, application engineering and servicing of Airtemp's heating and cooling equipment. Full day programs and evening sessions are being planned. Four correspondence courses have been added to the curriculum.

Titus Inc., is building new research Laboratory

A LABORATORY for research into the problems of diffusion and distribution of high velocity air and other airconditioning problems is being built by Titus, Inc., Waterloo, Ia.

Divided into two parts the center will have a sound room and an air distribution room which will simulate the various seasons. Directing testing and research will be Harold E. Straub, formerly with the Department of Mechanical Engineering, University of Illinois.

564 free Trips to Bermuda are won in Bryant Contest

FINAL RESULTS of a sales contest sponsored by Bryant Division, Carrier Corp., Syracuse, N. Y., show that 564 expense-free vacations to Bermuda were won by 302 dealers. In addition 48 trips were awarded Bryant branch managers, distributors and salesmen.

The winners left from New York at the end of November. Points not applied to the trip were redeemed for merchandise prizes.

Eureka Williams licenses Lucas to make Oilburners in England

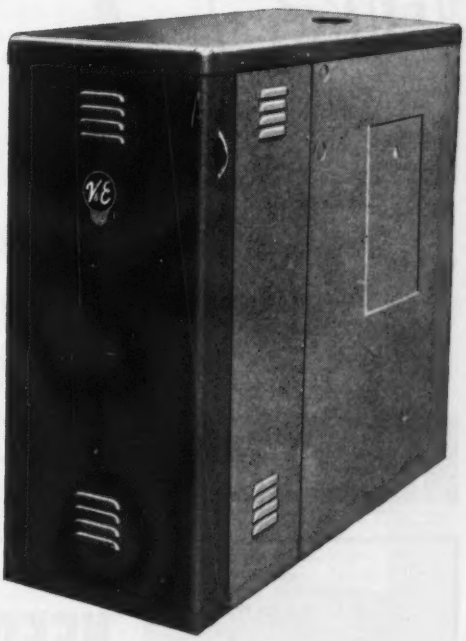
A LICENSING AGREEMENT was signed recently by the Eureka Williams Co., Bloomington, Ill., and Joseph Lucas (Industries) Ltd., Birmingham and London, England.

The English firm will concentrate its initial production on the manufacture of Oil-O-Matic residential burners. Lucas plans to establish a separate heating division. The company has primarily supplied British automotive, aircraft and marine industries.

V&E SCHUYLKILL HAVEN, PA.

WATER TUBE BOILER

Provides Heat and Year Round Hot Water



If you've been shopping around for a boiler burner unit that features QUALITY first, ECONOMY of operation and absolutely trouble free performance—then you owe it to yourself to see this V&E Down Draft, Steel, Water Tube Unit. People who know boilers—leading engineers—install V&E Units in their own homes because they know that they are getting units whose every feature has been thought out and constructed by leaders in the industry. Yes, as you will see in the report on Detailed Performance issued by one of the outstanding test laboratories in the country — you just couldn't buy a better boiler burner unit than a V&E no matter how much you spent.

Get the facts . . . and you'll sell a V&E and you'll be mighty glad you did!

DOWN-DRAFT
Water Tube Boilers

7 CAPACITIES

480-2320 sq. ft. stg. H.W. or equiv. steam (largest 55" high x 44" long x 22½" wide)

- FAST HEATING
- NO PULSATION
- HIGH EFFICIENCY
- EASY TO CLEAN
- PRICED RIGHT

V & E PRODUCTS, INC.
SCHUYLKILL HAVEN, PA.

Warehouses:
BALTIMORE • BUFFALO • PHILADELPHIA • SCHUYLKILL HAVEN • LOWELL

Phones:
HO. 7-1444 GAR. 7300 WAYNE 1625 S.H. 122 GLEN 7749

Best Visualizer Story wins Prize in Armstrong Contest

A CONTEST for dealers has been sponsored by the Armstrong Furnace Co., Columbus, O. Dealers wrote the company telling how the Visualizer had aided them in making sales.

The contest closed November 15. The prizes were distributed sometime before Christmas.

❖

Ray Nathan *(left) receives a certificate of membership in the "Point A Minute" Club sponsored by Williams Oil-O-Matic Division, Eureka Williams Co., from Steve Dowling, Oil-O-Matic district representative. Nathan is president of the Ray Nathan Oil Co., Freeport, N. Y.*

❖

Mathes Co. expands sales Force to compete in northern Market

JULES ALEXANDRE has been appointed manager, Northeastern Division, for Mathes Co., Inc., Fort Worth, Tex., a division of the Glen Alden Corp.

This is a part of a national, long-range expansion program for Mathes room airconditioners, residential and commercial airconditioning, and heating equipment. Until now the company has concentrated sales efforts in the South and Southwestern markets.

Alexandre had been national sales manager, airconditioning, for Emerson Radio and Phonograph Corp. His office will be located at the district warehouse of Mathes Co., located in Harrisburg, Pa.

COMING!
"A NEW STANDARD OF QUALITY"
FOR THE OIL-FIRED FIELD!
BIG J
WATCH FOR IT!

OIL BURNER
IGNITION ASSEMBLIES
for
industrial and residential use

CROWN offers a complete line of standard oil burner electrode assemblies, cable assemblies, hardware, terminals and UL approved cable. Quality is the finest available. Ceramic insulators are UL approved. Prompt, efficient, reliable service on all orders—large or small.

Complete Service

CROWN engineering service is complete. Call or write today for complete information on standard or custom-built assemblies. Literature on request.

Crown Engineering CORPORATION
KEYPORT • NEW JERSEY

NEED NOZZLES?
be sure to say Eddington

. . . the new Oil Burner Nozzle that you can depend on to keep your customers happy, and save time for you, too.

Note the new hexagon style dust proof canister designed to protect the small orifice of Eddington oil burner nozzles. Tip of nozzle is held away from bottom of canister. Each canister identified on top-Hollow Cone, red—Semi-Hollow, green—Solid Spray, blue. Another Eddington first!

Write for latest price sheets and information

EDDINGTON METAL SPECIALTY CO.
EDDINGTON, PA.

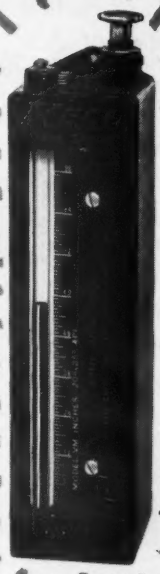
STRAINERS—SPRAY NOZZLES—VALVES—FILTERS—AIR CONES—STABILIZERS—INSPECTION MIRRORS—COMBUSTION HEADS

new!

KECO

remote-reading **TANK GAUGE**

For Oil and Gasoline



- Versatile!
- Attractively Priced!
- Economical to Handle!
- Minimum Dealer Inventory!

FREE BULLETIN shows why the Keco gauge is a natural for users, distributors and dealers alike. Write Today!

KING ENGINEERING CORP.

Box 410 • Ann Arbor, Mich.

MANUFACTURERS OF GAUGING EQUIPMENT FOR OVER 30 YEARS

NEW IMPROVED *Vaporite*

Automatic Humidifier

Fits any straight-side warm air furnace

Series 555

Corrosion Resistant Stainless Steel Vapor Pan 4" x 15"

ONE SIZE . . . ONE KIT ASSURES LOWEST COST INSTALLATION AND MINIMUM INVENTORY EXPENSE

Vaporite No. 555 Humidifier comes completely assembled in one package. No extras to buy . . . no parts to assemble . . . no extra holes to cut . . . no pan leveling or tricky mounting.

NEW IMPROVED VALVE — Provides more positive drip-feed thermostat operation. Water drips fastest when furnace is hottest . . . pan is dry when furnace is cold. Adjustable for precise vaporization needs of each installation.

Write for Catalog FO-1

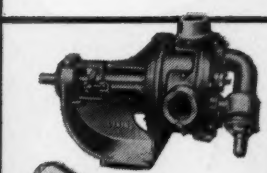
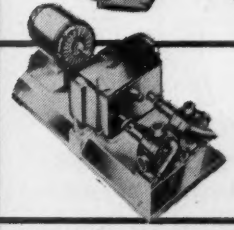
AUTOMATIC HUMIDIFIER CO., Cedar Falls, Iowa

STAND BY FOR THE BIG J

PEAK-ENGINEERED TO NEW, QUALITY STANDARDS IN OIL-HEATING!

PICK THE RIGHT VIKING PUMP FOR YOUR NEEDS

It's easy with this Simple Chart

	Catalog	Service	Capacity	Maximum Pressure	Features
	Ask for Section G-ee	**TRUCK MOUNTED** Fuel Oil Pump for Fast Delivery Service	35 to 300 G.P.M.	100 P.S.I. Non-Lubricating Liquids. 200 P.S.I. Lubricating Liquids	Integral Thrust Bearing. Packed or Mechanical Seal. Relief Valve on Head
	Ask for Section G-ee	**BULK PLANT ALL WEATHER** Twin Pumps for Handling Two Similar Petroleum Products	100 G.P.M. Each Pump	50 P.S.I. For Higher Pressures Consult Factory	Totally Enclosed. No Pump House Needed. Packed or Mechanical Seal

Your Viking district office or distributor will promptly furnish complete information on these or many other Viking rotary pumps *to fit your needs.* Send for any of the above catalogs or check with your Viking distributor.

VIKING PUMP COMPANY

Cedar Falls, Iowa *See our catalog in SWEETS*

THE ORIGINAL "GEAR-WITHIN-A-GEAR" ROTARY PUMP

Airflame Patent covers Mixture of Air and Oil

U. S. PATENT 2,717,638, issued to W. B. Perdue, Waukegan, Ill., is described as covering means for driving fan air into the center of the oil mist of gun type oilburners for improved mixture and propagation of the flame from the center outwardly toward the surfaces to be heated.

Perdue explains his plans now contemplate selling to interested burner manufacturers the patterns, production equipment and Underwriters' approvals on the 26 models of burners sold under the brand name of Airflame. At the same time, he will use his special foundry equipment to produce the precision air cones needed for these burners.

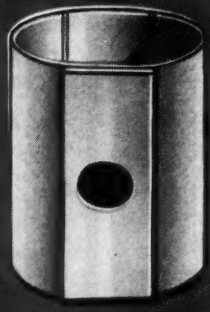
M-H Training School marks 20th Year in Philadelphia

THE TWENTIETH anniversary class was graduated, December 16, from Minneapolis-Honeywell's Industrial Division training school. Since its inception, the school has trained more than 4,050 U. S. and foreign engineers in the application of controls.

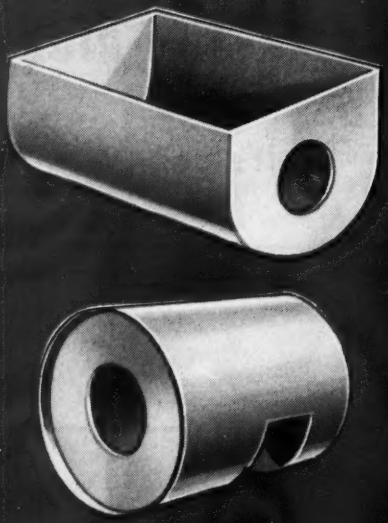
During 1955 the school graduated 253 customer engineers as well as 96 M-H engineers. Students from 17 different countries were in attendance.

To meet the demand for similar training from industrial firms in Great Britain and western Europe, Honeywell has established a training school in England. The overseas school enrolled its second class this year.

the RIGHT STEEL



for your COMBUSTION CHAMBERS



ADVANTAGES OF HEAT-RESISTING STEEL COMBUSTION CHAMBERS*

- No breakage in shipment or handling
- Lighter weight lowers freight costs
- Quicker heating—greater efficiency
- Cleaner heat—better temperature control

*Ingersoll does not fabricate combustion chambers

Sheared to Size—Less Scrap Save Time—Cut Costs

The *right* steel makes all the difference in your oil heat combustion chambers. That's why it pays to use Ingersoll *heat-resisting stainless* steel!

It's easy to fabricate—because it has exceptional forming qualities.

It withstands high temperatures—because its analysis is correct.

It's uniform in quality—because Ingersoll specializes in producing this type of steel.

It comes to you sheared to your specified blank sizes, or multiples thereof, depending on size—so it saves you time, money and scrap.

Specify Ingersoll—and profit by the difference!

Write, wire or phone for details

B-W BORG-WARNER

Ingersoll
STEEL DIVISION
Borg-Warner Corporation
310 S. Michigan Ave., Chicago 4, Ill.
Plant: New Castle, Indiana

Field Men are added to sales Organization at Iron Fireman

FIVE FIELD MEN have been added to the sales organization of Iron Fireman Manufacturing Co., Cleveland, O., according to C. T. Burg, vice-president.

New district sales manager for the eastern half of Ohio is Stanley F. MacMichael. William H. Schrum will cover the eastern part of Pennsylvania outside of Philadelphia. Donald O. Spicer will handle sales for the Indianapolis, Ind., wholesale operation.

Howard Misfeldt is district sales manager for Nebraska and South Dakota, and William D. Burk has been assigned Alaska and the Yukon territory.

Sid Harvey Old Timers' Club had Dinner-Dance, Dec. 3

THE ROSTER of employees with ten or more years of service at Sid Harvey, Inc., Valley Stream, N. Y., was enlarged when the company "old timers" had their annual dinner-dance, December 3.

At that time the new members were presented with the traditional silver bowl. The employees honored were: Anna L. Dooley, Julian Gatslick, Katherine Jones, Edward Kruger, Edna E. Loeffler, Dorothea E. Lutz, James McKenna and Joseph V. McNamee.

Others: Robert W. Mitchell, Ellwood C. Myers, Henry J. Otto, Frederick C. Pearsan, Donald N. Smith, June Smith, Louise Stromstedt, Charlotte Sullivan, Leslie W. Algar and William L. Carter.

the Good Old Days?

YOU'RE OUT!

"Heating plants are simple things,"
And the 'Expert' stopped to cough.
"Just let me take my turn at bat
"Then watch the soot come off."

"Salt," the 'Expert'
said to use,
"Then, sir, you'll
have a terror."
The belching soot
gave him the score:
No hits, no runs,
just errors.

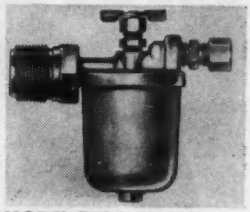
To be sure of heating efficiency, use
"CLEAN RIGHT" SOOT REMOVER
NON-CORROSIVE NON-EXPLOSIVE
LEAVES NO RESIDUE
Always look for the broom on the package.

MILLER PRODUCT CO.
3045 CEDAR ROAD • LANSING, MICHIGAN

THE CHANGE IS IN THE NAME!
THE PRODUCTS ARE THE SAME...

SETTE

Microstone® Element FILTERS and Self-Closing Faucets



MODEL F10B
List Price $2.80 each
INLET ¾" IPT—or ½" on special order at no extra cost. OUTLET ⅜" tube or ¼" IPT.

Marquart Manufacturing Company
... manufacturers for many years, of Microstone Element Filters and Self-Closing Faucets... has changed their name to SETTE PRODUCTS COMPANY, because of its better product-company identification. Company management... company policy... high quality products... prices... ALL REMAIN THE SAME!

If your jobber can't supply, ORDER DIRECT from:

SETTE PRODUCTS COMPANY
1241 HIGH STREET • OAKLAND 1, CALIFORNIA
EXPORT DIVISION—OCEANIC EXPORT COMPANY
400 MONTGOMERY STREET • SAN FRANCISCO 4, CALIFORNIA

"ECHO"

(whistling)

VENT SIGNAL

Pat. in Canada—U.S. Pat. Pend.

- . . . Costs Less
- Installs Easier
- 50% Less Stock
- Increases Profits
- Dual Purpose
- Two Models
- Approved . . .

ORDER FROM LOCAL WHOLESALER OR WRITE US DIRECT.

A. B. CARLSON & Co., Inc.
349 Woodlawn Avenue AURORA, ILLINOIS

ONLY **VECO** COMBUSTION ANALYZER

Save time and money testing heating equipment with the VECO Combustion Analyzer. This portable instrument measures accurately the carbon dioxide content, temperature of the flue gas, and draft over fire.

In *seconds* it makes an efficiency check of any oil, gas or coal burner. Because it utilizes the VECO thermistor gas analysis cell, there are no open-wire filaments, no hot wires! Two analyzers are available—domestic or industrial. Your jobber can supply either unit in compact cabinet, battery operated.

Write for complete information.

VICTORY ENGINEERING CORPORATION
111 Springfield Road, Union, N.J. Telephone: MUrdock 8-7150

VECO also manufactures TEMPROBE ® the portable electric thermometer for instant, accurate readings anywhere.

BIG J WILL SAVE THE DAY!

IT'S THE BIG NEWS IN THE OIL-FIRED FIELD

COMING IN FEBRUARY!

Industry Groups

(*Begins on page 62*)

Officers, Directors elected by Plumbing, Heating Bureau

AT THE RECENT annual meeting of the Plumbing and Heating Industries Bureau in Chicago, John H. Ewald, Kenneth Anderson Co., was re-elected president.

Other officers, all re-elected, are W. O. Brown, Crane Co., vice-president; George O. Toepfer, The Maag Co., treasurer; and Norman J. Radder, Chicago, secretary.

Among the directors named at the meeting were the following: J. M. Dumser, Wolverine Tube Division, Calumet & Hecla Consolidated Copper Co., representing the Copper and Brass Research Association; John W. Ewald, Kenneth Anderson Co., representing the Central Supply Association; and Earl J. Gossett, Bell & Gossett Co., representing the Hot Water Heating Specialty Manufacturers.

Also: Albert M. Palmer, Kewanee-Ross Corp., representing the Steel Boiler Institute; R. S. Rickabaugh, Tuttle and Bailey, Inc., representing the Convector Manufacturers Association; R. L. Stewart, Stockham Valves & Fittings, Inc., representing the Pipe Fittings Manufacturers Association and the Valve Manufacturers Association; and George L. Erwin, Jr., Crane Co., representing the Institute of Boiler and Radiator Manufacturers.

Northwest Oil Jobbers plan Convention on January 25-26

PLANS ARE BEING SET to make the winter convention of the Northwest Petroleum Association especially attractive to oil men. Hiff Horning, secretary, has notified members that the meeting will be held at the Nicollet Hotel, Minneapolis, Minn., January 25-26.

North Carolina Oil Jobbers plan Management Institute

A JOBBER MANAGEMENT INSTITUTE will be sponsored by the North Carolina Oil Jobbers Association April 9-14 at the University of North Carolina, Chapel Hill.

YOU'RE ALWAYS ~~with~~ HOT WATER WITH A QUIET AUTOMATIC OIL FIRED WATER HEATER

FOR YEAR AROUND HOT WATER

CHOICE OF
- GALVANIZED
- COPPER or
- GLASSLINED

NO PILOTS TO TURN ON OR OFF
NO VALVES TO BOTHER WITH
NO EXTRA STORAGE TANK NECESSARY

MADE IN TWO SIZES #90 #200 HEATERS

JUST CLEAN HEATED HOT WATER . . . GOOD ENOUGH TO DRINK

A PRODUCT OF
QUIET AUTOMATIC BURNER CORP.
J. G. KAVENY, President
11-35 BLOOMFIELD AVE. NEWARK 4, N. J.

WHO-O-O MAKES CONTROL INSTALLATION EASIER?

see page 180

ULTRA Perfect Pattern NOZZLES

"the secret's in the orifice"

Spray symmetry is assured when you use ULTRA *perfect-pattern* nozzles. We're proud of our precision work. Try ULTRA and see for yourself!

ULTRA METAL UTILITIES CORP.
27-07 Astoria Blvd., Long Island City 2, N. Y.

More than a Recap!
. . . that's what you get with
HAWKINSON TREADS
Because
A TREAD TO SUIT YOUR NEEDS
• RUN COOLER • LAST LONGER
• GIVE BETTER TRACTION
• BETTER PERFORMANCE
CURED THE WAY THEY RUN
AUTHORIZED HAWKINSON TIRE TREAD SERVICE
TRADE MARK REG. U. S. PAT. OFF.
Authorized HAWKINSON TREAD Service
In Principal Cities U. S. A., Canada and Foreign Countries
Minneapolis ★ PAUL E. HAWKINSON CO. ★ Minnesota

GEM
SINCE 1908
COMBUSTION CHAMBERS

Tough
. . . and flawless!

GEM Combustion Chambers are die formed from hi-grade lightweight insulating materials and then kiln-fired to withstand 2300° F temperatures . . . that's why they're "tough" and give years of "flawless" performance. GEM's construction guarantees high combustion efficiency and excellent performance with high or low pressure burners.

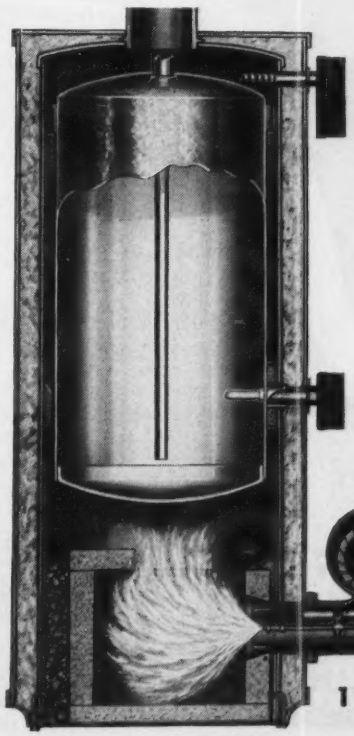
The universal design of GEM Chambers enables fast and easy installations in any boiler or furnace. The scientific "float packaging" used assures maximum protection from breakage. Enjoy GEM's many advantages on your jobs—Write Today!

Special designs to meet furnace and boiler manufacturers specifications are our specialty. Inquiries are invited for prompt free estimates.

GEM CLAY FORMING CO.
Sebring, Ohio • Phone: 8-6141

Mfg's. of RADIANTS • BACKWALLS • STOVE LINERS
COMBUSTION CHAMBERS • INSULATING BRICK • ELEMENTS

BOCK WATER HEATER WITH
GLASS LINED TANK



- EXTRA heavy galvanized or glass lined tank, REMOVABLE.
- Sectional combustion chamber. Taken in and out of inspection door.
- Use No. 2 oil, same as in your furnace.
- Wide public acceptance, 26 years making good oil water heaters.
- Also a complete line of large heavy-duty oil or gas fired water heaters. For schools, apartments, and public buildings.

BOCK CORP.
110 S. DICKINSON ST.
MADISON 4, WIS.

BE **SURE** OF YOUR **PROFIT!**

use *Low Cost*

FUELGUARD

REMOTE READING TANK GAUGES

The **no-trouble** gauge that can be installed in minutes—**without** special pipes, wires, or tank connections. Easy to read, can be located anywhere, will give years of dependable, accurate service.

Send for information today!

THE R. S. TEESDALE CO.

2830 Woodeliff St., S.E. **Grand Rapids 6, Mich.**

PRESS THE BUTTON!

KILL THE OIL ODOR!

INSTANTLY

PERMANENTLY

With **ODORGON**

Stop nuisance service calls!

One ODORGON aerosol bomb does the job of 10 pounds of powder. Dealer cost only $1.50 per can.

ASK YOUR JOBBER
or write

STEWART-HALL CHEMICAL CORP.
Mt. Vernon, New York

Report on Activities, Programs of Associations in New Jersey

AARON W. RICH was honored for his long service to the industry at the 28th annual banquet of the New Jersey Oil Trade Association, December 8, in Newark.

Officers elected by the Middlesex County Oil Heat Association are Lou Markette, president; Bill McLoughlin, vice president; and Louis Grzybek, secretary and treasurer.

The North Jersey Oil Heat Association (Morris County) met at Parsippany on December 8 to hear a talk on budget insurance.

The 1956 fueloil convention of the Fuel Oil Distributors Association of New Jersey will be held at the Berkeley-Carteret Hotel, Asbury Park, N. J., April 25-27.

Calendar of coming Events

JANUARY

9–10—Kansas Oil Men's Assn. (annual meeting), Baker Hotel, Hutchinson, Kans.

10–12—Kentucky Petroleum Marketers Assn., (Annual Meeting), Brown Hotel, Louisville, Ky.

12—South Carolina Oil Jobbers Assn., (Annual Meeting), Hotel Columbia, Columbia, S. C.

18—Oil Trades Assn. of New York, Waldorf-Atoria, New York City.

18–19—Oil-Heat Institute of America, Board of Directors Meeting, Hotel Carter, Cleveland, Ohio.

19—Independent Oil Men's Association of New England, annual winter get-together, Hotel Statler, Boston.

22–26—National Assn. of Home Builders, (annual convention and exposition), Conrad Hilton, Sherman Hotels and Coliseum, Chicago, Ill.

23–25—American Society of Heating and Air-Conditioning Engineers, (annual meeting), Sheraton-Gibson Hotel, Cincinnati, O.

25–26—Northwest Petroleum Assn., (Annual Convention), Nicollette Hotel, Minneapolis, Minn.

FEBRUARY

2– 3—Sheet Metal & Warm Air Heating Contractors' Assn. of Indiana (Convention), Hotel Severin, Indianapolis, Ind.

22–23—Iowa Independent Oil Jobbers Assn., Inc., (Convention), Fort Des Moines Hotel, Des Moines.

27–29—Missouri Petroleum Assn. (annual meeting), Chase Hotel, St. Louis, Mo.

MARCH

7– 8—Wisconsin Petroleum Assn. (annual meeting), Hotel Schroeder, Milwaukee.

13—Oil Trades Assn. of New York, Inc., Waldorf-Astoria, New York City.

13–14—Illinois Petroleum Marketers Assn. (annual meeting), Hotel Sherman, Chicago.

15–17—Texas Oil Jobbers Assn. (annual meeting), Statler-Hilton Hotel, Dallas.

20–21—Nat'l Heating & Airconditioning Show, Automotive Bldg., Exposition Park, Toronto, Canada.

20–22—Ohio Petroleum Marketing Assn., Inc. (spring convention and exposition), Deshler-Hilton Hotel, Columbus.

30—Florida Petroleum Marketers Assn., Inc. (annual meeting), George Washington Hotel, Jacksonville.

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